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## The social thought of Clarence Edwin Ayres

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THE SOCIAL THOUGHT  
OF CLARENCE EDWIN AYRES

BY  
HENRY M. GREGORY

A Thesis Submitted in Partial Fulfillment of the  
Requirements for the Degree of  
MASTER OF ARTS  
at the University of the Pacific

1977

This thesis, written and submitted by

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## CHAPTER ONE. INTRODUCTION: AYRES, THE SOCIAL THEORIST

The writer first became interested in the social theory of Clarence Edwin Ayres while working on papers in sociological theory and social stratification at the University of the Pacific. In studying the theories of Thorstein Veblen and Leslie A. White, it was found that an underlying similarity existed among these writers and Clarence E. Ayres. The main thread of similarity was the prominence given to technology as the prime engine of change.<sup>1</sup>

Other sociologists and anthropologists had made technological and economic factors basic to their social theory, and several in addition had emphasized these factors in varying degrees. These included: William F. Ogburn, F. S. Chapin, Harry Elmer Barnes, George Peter Murdock, John R. Commons, Albert Galloway Keller, and Howard W. Odum.<sup>2</sup> Yet, it seemed that Ayres's position was equally as well formulated, but he was never mentioned as being an exponent of this position.

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<sup>1</sup>Thorstein Veblen, The Theory of the Leisure Class: an economic study of institutions, (New York: The Modern Library, 1934); Leslie A. White, The Evolution of Culture, (New York: McGraw Hill, 1959).

<sup>2</sup>William Fielding Ogburn, Social Change with Respect to Culture and Original Nature (New York: The Viking Press, 1950); F. S. Chapin, Cultural Change (New York: The Century Co., 1928); Harry Elmer Barnes, Sociology and Political Theory (New York: A. A. Knopf, 1924); George Peter Murdock, Social Structure (New York: The Macmillan Company, 1949); John R. Commons, The Economics of Collective Action (New York: The Macmillan Co., 1950); Albert Galloway Keller, Societal Evolution (New York: The Macmillan Co., 1915); Howard W. Odum, Man's Quest for Social Guidance (New York: Henry Holt and Co., 1927).

Why was Ayres omitted? It may very well have been that Ayres's position as a social theorist was in doubt because he wrote primarily as an economist. Ayres had come to the study of economics by a circuitous route which involved first the study of philosophy and later the acceptance of teaching positions in the field of economics.<sup>3</sup> Ayres had written his Ph.D. dissertation at the University of Chicago in Philosophy (1917). But even in his early writings, he showed interest in the thought of Thorstein Veblen, who along with John Dewey, were to become his mentors. It was from Veblen that Ayres had come to see that the patterns of human behavior and social behavior had two fundamental thrusts, not merely rational and emotional, as psychologists were prone to point out, but the "workmanship" of man by which Veblen meant technology and institutional behavior patterned upon ceremony, status, and tradition. Veblen used many terms to describe this latter behavior, such as, "waste," "pecuniary employments," and "imbecility," but its main characteristic was ceremony and ritual. There was a basic irrationality in man and a great proclivity on his part for display and ceremony. Ayres summarized Veblen's contribution succinctly when toward the end of his life he published a new introduction

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<sup>3</sup>Biographical sketch on Ayres: Jacques Cattell, Directory of American Scholars, Second Edition, 1951, pp. 32-33: "Born Lowell, Mass. May 6, 1891. A. B. Brown, 1912, A.M. 1914; Harvard 1913; fellow Chicago, 1916-1917, Ph.D. 1917. Instructor Philosophy, Chicago, 1917-1920. Assoc. Prof. Amherst College 1920-1923; Prof. Reed College, 1923-1924; Assoc. Editor New Republic, 1924-1925; lecturer in Philosophy and adviser experimental college, Wisconsin, 1928-1929; Prof. Econ., Texas, 1930. Director of Consumer Division, U.S. Dept. of Labor, 1936; Visiting Professor of Washington (Seattle), 1940; Summers; Prof. Ohio State, 1927; New York University, 1930. Philosophical Association, Economic Association (Board of Editors, American Economic Review, 1935-1937); S.W.S. Science Association, (pres., 1939), Social Philosophy, Economic Theory and its history; institutional economics." Ayres died in 1972.

to two of his earlier works: Science: The False Messiah (1927) and Holier Than Thou (1929). He wrote:

It is now generally understood that human behavior--all human behavior and all organized social patterns--present two distinct and contrasting (though not unrelated) aspects to the uninvolved observer. From the earliest times of which we have knowledge, down to the present human behavior presents an amazing contrast of rationality and irrationality, of sense and nonsense, of economy and waste. This contrast was Veblen's master principle. As the contrast between "making things" and "making money" it was the master principle of his economics and perhaps his significant contribution to the dismal science.<sup>4</sup>

Don Martindale once wrote about Veblen in the following manner:

The reason why Veblen's theoretical importance tended to be obscured was the general sociological rather than specifically economic nature of his theories. Economists thought of his work as tangential to the main business of economics. And as long as sociologists have treated him as an economist, they have not--and frequently still do not look at Veblen's work as a type of sociological theory. Hence one of America's most original theorists is at times denied recognition as a theorist.<sup>5</sup>

What Martindale intimates is that social theory does not have to come from professors of Sociology to be germane. It should be judged on its own merit and is not the monopoly of sociologists. It is authenticated by its usage as a model or by recognition of its analytical depth.

It seemed to this writer that Ayres's sociological thought deserved credit, if for no other reason, than it was obvious that he clarified in great measure the positions of Thorstein Veblen and John Dewey. But there were other reasons as well.

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<sup>4</sup>Clarence E. Ayres, Science: The False Messiah (1927; rpt. Clifton, N.J.: Augustus M. Kelley Publishers, 1973); Holier Than Thou (1929; rpt. Clifton, N.J.: Augustus M. Kelley Publishers, 1973)., p. iv.

<sup>5</sup>Don Martindale, The Nature and Types of Sociological Theory, (Boston: Houghton Mifflin Company, 1960), p. 399.

C. Wright Mills, who had been a student of Ayres while attending the University of Texas in the 1930s, had praised Ayres's understanding of Veblen. He believed Ayres to be the foremost interpreter of Veblen.<sup>6</sup> Mills went on to become one of the leading sociologists in the United States. He taught Sociology at Columbia University from 1946 until 1962. He was an exponent of interactionism, and some have labeled him as the foremost representative of the conflict model of sociological theory in the United States.<sup>7</sup> Talcott Parsons, one of the leading exponents of the other basic sociological orientation in the United States, the structural functionalist model, was also a student of Ayres while at Amherst, at the end of World War I. Ayres seemed quite oblivious to the influence he had upon their thought. According to Gillam, there were great feuds between Mills and Parsons over different sociological perspectives, and yet it is impossible to know how much of their perspective was gained from Ayres.<sup>8</sup> One of Ayres's former students commented along these lines: "That two outstanding students of Ayres could represent such divergence of approach may indicate a certain confusion or ambiguity in his thought or at least in his classroom presentation."<sup>9</sup> But a careful reading of both Mills and Parsons does reveal some

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<sup>6</sup>C. Wright Mills, Images of Man (New York: George Braziller, Inc., 1960), p. 336, n. 1.

<sup>7</sup>William A. Kolb, "Sociology and the Christian Doctrine of Man," in Religion and Contemporary Western Culture, ed., Edward Cell (New York: Abingdon Press, 1967), p. 365. Leonard Broom and Phillip Selznick, Sociology, Fifth Edition (New York: Harper and Row, Publishers, 1973), p. 6; Martindale, p. 373.

<sup>8</sup>Richard Gillam, "The Intellectual Rebel: C. Wright Mills, 1914-1946," (Unpubl. M.A. Thesis, Columbia University, 1966), p. 40.

<sup>9</sup>Rick Tilman, "Value Theory, Planning and Reform: Ayres as Incrementalist and Utopian," Journal of Economic Issues, VIII, (December, 1974), p. 706., n. 23.



similarities to Ayres's thought, and it should be remembered that Mills and Parsons by no means present totally consistent systems.

Walter Rochs Goldschmidt, Professor of Anthropology, at the University of California, dedicated his book, Man's Way: a preface to the understanding of human society<sup>10</sup> to Ayres and others who were his teachers, among them Alfred L. Kroeber and Robert H. Lowie. While Goldschmidt does not cite Ayres specifically in the text, it is obvious that he shows great indebtedness to him in chapters four and five where technology is discussed. Ayres also taught Marion L. Levy, who is Professor of Sociology at Princeton University, as well as David Hamilton, who is Professor of Economics at New Mexico University. There are probably many other students whom Ayres taught in the ranks of sociology teachers who are unknown to the writer, but if this were all, it would indicate considerable influence.

It is the thesis of this study, that although Ayres's theory of progress is damaging to his sociological theory as a whole, his theory of the basic dichotomy of social action, that of technology and ceremonialism, deserves greater credit than it has received and is profoundly significant sociologically.

It is obvious to anyone who has ever read through the works of Clarence Ayres that he was a man of many interests. He was interested in anthropology, psychology, history, the humanities, and the arts. How do you place individuals in categories who show such a versatile depth in human thought? A former student has commented: "A reader unfamiliar with the work of Clarence Ayres, taking a casual glance at his writing, easily could mistake him for art

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<sup>10</sup>Walter Rochs Goldschmidt, Man's Way: a preface to the understanding of human society, (New York: The World Publishing Company, 1959).

historian, musicologist, philosopher, or literary critic. His published work, written over a period of nearly sixty years, reveals encyclopedic knowledge and an incredibly broad range of interests."<sup>11</sup>

Ayres seemed to have had an interest in psychoanalysis as a tool for solving human behavior problems. He taught Allen Wheelis, a practicing psychiatrist and psychoanalyst in the San Francisco Bay area, while he was a student at the University of Texas, and Wheelis has written a book which deals in large part with Ayres's "technological" and "institutional" concepts.<sup>12</sup>

It should be stated quite clearly that Ayres never failed to give credit to Thorstein Veblen and John Dewey for their contribution to his germinal ideas about the basic dichotomy in human social behavior. His last published writing, which was referred to above,<sup>13</sup> was a new introduction to his older works: Science: The False Messiah and Holier Than Thou. This introduction was written at the insistence of Joseph Dorfman of Columbia University, another first-rate Veblenian scholar. Dorfman was an avid admirer of Ayres's interpretation of Veblen's theory and requested that Ayres write a new introduction to these two older works explaining how Veblen's ideas were manifested in them.

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<sup>11</sup>Tilman, p. 689.

<sup>12</sup>Allen Wheelis, The Quest for Identity, (New York: W. W. Norton and Co., Inc., 1958), especially pp. 174-205.

<sup>13</sup>See Page 3 Above.

In this new introduction, Ayres revealed some of his own development in thought. He stated that he had early been aware of human behavior as a dichotomy, but that he had failed in these two works to identify the two aspects of human behavior as a "dichotomy." Veblen had never used the term as such, although dichotomies abounded throughout his writings. Ayres admitted that he did not use the term "dichotomy" until he wrote "The Gospel of Technology" article to be included in American Philosophy Today and Tomorrow, edited by Horace M. Kallen and Sidney Hook.<sup>14</sup> This article was first published in 1935. Ayres stated that "Veblen made the dichotomy of technology and ceremonialism his master principle; and in my later efforts to clarify the 'Institutional Conception' of economic process and economic policy I have followed his lead."<sup>15</sup> But Ayres went on to admit that he was astonished that he had not clearly used the term "dichotomy" earlier than 1932. He reflected:

I am mildly astonished to find that Science: The False Messiah is concerned with one aspect of human nature and of all organized society, and Holier Than Thou with the other. Neither is so identified, this I do not understand. For I was already an avowed Veblenian, and would not have hesitated to identify my ideas with his. But perhaps the explanation of this anomaly is simply that at this time my ideas were too inchoate to be identified even in my own mind with the dichotomy which later seemed so clear.<sup>16</sup>

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<sup>14</sup>Clarence Edwin Ayres, "The Gospel of Technology," in American Philosophy Today and Tomorrow, eds., Horace M. Kallen and Sidney Hook, (1935; rpt. Freeport, New York: Books for Libraries Press, 1968), pp. 25-42.

<sup>15</sup>Ayres, Messiah, p. v.

<sup>16</sup>Ibid.

It was John Dewey, Ayres said, who influenced him most on his theory of value. Ayres originally taunted his older professors about their insistence upon maintaining some type of value scheme in the period when value-relativism was taking hold. "Darwinism" had exploded all such notions of certainty or design. Adam Smith's belief, that a "guiding hand" led men through self-interest toward an end which no one had in mind, that is the common good,<sup>17</sup> was an attempt to ordain "nature" with a design that had been lost in the demise of supernaturalism. But while Ayres originally espoused the new "cultural relativism," he was not entirely happy with it. He admitted that even in Holier Than Thou this displeasure was partially visible. It was revealed with his displeasure of Sumner's dualistic "folkways" and "mores." He did not appreciate the dualistic implications of one's being higher than the other.

Mores were moral sanctions for Sumner and therefore essential for usage in a particular cultural setting. Folkways were not binding and were more akin to etiquette. Ayres questioned the advisability of Sumner's division, since both were basically customs. How can you make one higher than the other and be consistent to Sumner's theory that custom makes anything right? Ayres's reasoning was

The theory of Folkways seems to be that morals as well as etiquette are only customs. But there is another way in which this theory can be taken. We assume that conventions are trivial because they are customary. And therefore we assume further if morals are customary too, they are also trivial. But if we begin at the other end, assume that morals are of

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<sup>17</sup>C. E. Ayres, Toward a Reasonable Society, (Austin, Texas: University of Texas Press, 1961), p. 7.

greatest possible importance, and that they are customary, and then move to the proposition that folkways are customary too, there is no reason at all for our concluding that the folkways are trivial because they are customary. On the contrary, reasoning in that direction we should properly make the inference that, folkways being customary in the same sense as mores, they are just as important if not just as sacred as the mores. Indeed, Sumner's distinction between the two is made entirely on ground of popular prejudice in the matter.<sup>18</sup>

Veblen too, earlier than Sumner and more capably according to Ayres, had espoused folkways as the only guides to behavior. But Ayres believed the relativism of Veblen to have been essentially different from that of Sumner in that Veblen was conscious of the life-process as being dependent upon tool-behavior and basically for "the good of the species." He noted that Veblen was aware, in a way that Sumner was not, of human life as a locus of value through "workmanship." He stated: "Veblen saw this. As I have suggested even when he is intent upon pointing out the utter conventionality of 'waste,' he says in effect that human life and well being is a quite different matter."<sup>19</sup> The difference between Sumner and Veblen was that Sumner understood customs as the locus of value while Veblen understood human needs as the locus of value.

Ayres admitted that he was a "moral agnostic" until he encountered John Dewey's Theory of Valuation. Previously, he urged his colleagues to "come clean" and admit that there were no "guiding rules" to establishing values, one custom being as significant as any other. He was heading for a volte-face, but originally he denounced the hypocrisy of value preference:

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<sup>18</sup>Ayres, Holier, pp. 49-50.

<sup>19</sup>Ayres, Messiah, p. x.

"If value judgments give effect to tribal practices and nothing else, then there are no absolute values. What we think good and right is what our community values. As human life is organized it can be nothing more. There are no transcultural values."<sup>20</sup>

A change of attitude occurred, however, with his understanding of John Dewey's Theory of Valuation. He said that he was awakened from his dogmatic slumber and to a new understanding of how valuation does occur in the human species, not through dictates of custom but rather through the need for man to find answers to the basic problems of life, for example, health, survival, cooperation, tools, conservation, workmanship, and the other necessities of the making of life. In this development, Ayres can be seen as standing in the humanistic tradition of some current sociologists, such as C. Wright Mills, Irving Louis Horowitz, Alvin Gouldner, Norman Birnbaum, Seymour Lipset, Daniel Bell, Robin M. Williams, Jr., and Robert Nisbet to name but a few.<sup>21</sup> He stated:

. . . To be sure nothing mitigates the obscurantism of "imbecile" institutions. But institutional archaism is not the whole of life. There is always the technological process, and the continuity of that process means that it is a locus of value no less definite than institutional taboos. The technological process is what Dewey called "a means-ends continuum." Human life itself is the "locus" of value--not in the animistic sense of totem and taboo but in the continuously progressive sense of the "instinct" (or process) of workmanship.<sup>22</sup>

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<sup>20</sup>Ibid.

<sup>21</sup>Donald A. Hansen, An Invitation to Critical Sociology, (New York: The Free Press, 1976), p. xiii.

<sup>22</sup>Ayres, Messiah, p. x.

What Dewey accomplished then was to put back into the vacuum of "moral agnosticism," not transcendental values, or historical order, or natural meanings which were imposed upon the world but rather a means of evaluation, a process of judging. It was never a certainty; it was always experimental. But it was a tool that could be used to solve one problem before moving on to other problems. Dewey made the following comments on this matter:

. . . No human activity operates in a vacuum; it acts in the world and has materials upon which and through which it produces results. On the other hand, no material--air, water, metal, wood, etc.--is means save as it is employed in some human activity to accomplish something. When "organization of activities" is mentioned, it always includes within itself organization of the materials existing in the world in which we live. That organization which is the "final" value for each concrete situation of valuation thus forms part of the existential conditions that have to be taken into account in further formation of desires and interests or valuations. . .<sup>23</sup>

Gruchy states the following concerning Ayres's reliance upon Dewey:

. . . philosophers, going back to Plato and Aristotle and continuing up to the advent of John Dewey's philosophy of pragmatism around 1900, had a dualistic approach to the study of reality. They separated human experience or the actual daily round of events from what was alleged to be a more uniform and ultimate scheme of things lying behind the flux of actual events. The behind-the-scenes scheme of things was asserted to be perfect, changeless and the reflection of some Ultimate Reason or eternal spirit. This classical philosophical approach takes society to be fundamentally changeless and static. There is no inner spring or factor at work in the world which is an independent source of dynamic change, and which would, if it existed, necessarily push the world along an evolutionary path. According to the interpretation of classical philosophers science or knowledge accumulates but does not change the underlying essential order of things.<sup>24</sup>

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<sup>23</sup>John Dewey, Theory of Valuation, (Chicago: University of Chicago Press, 1939), p. 50.

<sup>24</sup>Allan G. Gruchy, Contemporary Economic Thought, (Clifton, N. J.: Augustus M. Kelley Publishers, 1972), pp. 90-91.

Gruchy elaborates further upon Ayres's development of dichotomous relationships as the essence of the life-situation in the following statement:

Ayres, like John Dewey, has made a major break from classical nineteenth century philosophy. Following Dewey, Ayres has abandoned the dualism that runs through standard philosophy. Dewey takes society to be a life process in which there is no such thing as a dualism between what is seen and what is behind the scenes. There is no changeless, static or orderly process behind the life process of mankind. The life process is just what it is--people in the process of acting, experimenting, accumulating scientific knowledge and altering the actual scheme of things with the aim of improving social well-being. All is unity. Biologically mind and body are inseparable, and lifewise, from the pragmatic philosophical point of view, there is no separation between what is mental and what is material.<sup>25</sup>

Ayres never lost sight of the fact that Dewey paved the way for him to see clearly the institutionalism of Veblen and the technological efforts of man (the "workmanship" of Veblen and the "instrumentalism" of Dewey), but he never really doubted that the conceptual framework would have eventually been understood by him, even without them, for the "process" was greater than any individual "originator". He stated:

My own ideas have been chiefly formed, so far as I can judge, by reflection upon the work of John Dewey and Thorstein Veblen; but the importance of such men derives not from personal authority nor even from any notable originality, but rather from the clarity with which they have served as mouthpieces for the culture they express. What they have voiced is important, it seems to me, because it is obvious and mandatory. Thus I regard Dewey's "instrumental" philosophy and the "institutional" economics which derives from Veblen (though he did not christen it) as almost identical expressions of an almost inevitable trend: the trend of technology and science.<sup>26</sup>

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<sup>25</sup>Ibid., p. 92.

<sup>26</sup>Ayres, Gospel, p. 27.



This writer has proposed as a part of his thesis for this study of Ayres's social thought that C. E. Ayres developed the thought of both Veblen and Dewey beyond their original points of reference to a new social theory, the theory of the dichotomy of technology and institutionalism. While Veblen did not have a chance to know of Ayres's progression along these lines, Dewey did, and once stated:

. . . while a number of writers have brought forward the facts which are involved in this view (Instrumentalism), Dr. Clarence Ayres, as far as I am aware was the first one explicitly to call science a mode of technology. It is probable that I might have avoided a considerable amount of misunderstanding if I had systematically used "technology" instead of "instrumentalism" in connection with the view I put forth regarding the distinctive quality of science of knowledge.<sup>27</sup>

Although Ayres himself later remarked that the term "technology" also had its limitations, the search for a term of greater pertinence seemed fruitless.<sup>28</sup>

It is obviously impossible in the light of the extensive nature of Clarence Ayres's works to cover them in detail. Certainly, this writer realizes that he is not competent to judge Ayres's economic thought. It is then to the social thought of Ayres that this study will be directed. Since Ayres is constantly referring to the development of "man," we shall not substitute "human species," a reference he occasionally used, but will only make clear that "man" is used in this study generically.

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<sup>27</sup>John Dewey, Problems of Men, (New York: Philosophical Library, 1946), p. 291 n.

<sup>28</sup>Ayres, Society, p. 277.

The attempt in Chapter Two will be to show how Ayres developed in his understanding of human nature and to show how he observed the self as a complex-biological, social, and symbolic (cultural). In Chapter Three, the attempt will be to present Ayres's views on the basic dichotomy which made up his sociological framework, the "Institutional" and "Technological" framework. Here some contributing factors to his development will be considered, but emphasis will be placed upon Ayres's unique contribution. In Chapter Four, emphasis will be given to a summary of Ayres's development of his most controversial theory: the theory of technological progress which includes his theory of value. Finally, in Chapter Five, the conclusion and critique will be presented and the thesis summarized.

## CHAPTER TWO. THE NATURE OF THE SELF IN AYRES'S THOUGHT;

## BIOLOGICAL, SOCIAL, AND SYMBOLIC (CULTURAL)

The Origin of Man

Along with Ayres's consummate interest in Thorstein Veblen's social and economic thought and John Dewey's philosophy of instrumentalism, early in his career he had manifested an interest in the biological origin of man.<sup>1</sup> It would seem that Ayres recognized that an understanding of the biological evolution of man was the first prerequisite of any social theory about man's behavior. This was during a period, circa 1925-1932, when the meaning of Darwin's theory of evolutionary change was still being debated. Veblen and Dewey had made it clear in their writings that they were departing from the common assumption as to the meaning of evolutionary theory. Far more important to them than the "proof" of organic development of the species was the social evolution of man. Ayres stated: "For both the essential problem was to view human activity, thought and even civilization as the performance of a strangely ingenious species of superape."<sup>2</sup> Ayres's interest in this period turned to Thomas Huxley, whom he thought had a

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<sup>1</sup>C. E. Ayres, "The Gospel According to Darwin," The New Republic, LIV (March 7, 1928); C. E. Ayres, "Gog, Magog and Evolution," The New Republic, LII (September 7, 1927), p. 76; Clarence E. Ayres, Science: The False Messiah, (1927; rpt. Clifton, N.J.: Augustus M. Kelley Publishers, 1973), passim; Clarence E. Ayres, Holier Than Thou, (1929; rpt. Clifton, N.J.: Augustus M. Kelley Publishers, 1973), passim; C. E. Ayres, Huxley, (New York: W. W. Norton, 1932).

<sup>2</sup>Clarence Edwin Ayres, "The Gospel of Technology," American Philosophy Today and Tomorrow, eds. Horace M. Kallen and Sidney Hook, (1935; rpt. Freeport, N.Y.: Books for Libraries Press, 1968), p. 28.

more profound interpretation of biological evolution and its implications than did Darwin himself.<sup>3</sup>

There were probably many reasons for this compelling interest in man's origin and evolution on the part of Ayres. He had realized very early in his writing that man was homo faber as well as homo sapiens. He sought to find this "cultural" emphasis in Darwin and found only a "biological" explanation of man's origin. This left him dissatisfied.

Ayres was also subjected to a conditioning process in his religious training, his father being a minister. He had long since determined that what was designated as "religious truth" was merely social constructs that had been given transcendent meanings. He was convinced, that is, that religious meanings were institutional meanings, and that only instrumental tools served to enhance man's well-being and to meet his basic needs. When one reads through Ayres's works, it is a surprise to notice the very commanding knowledge he possessed of Biblical lore and theological dogma. There appears to be no doubt that he was an avid student of the religious "mysteries" and supposed "certainties." Even though he rejected these "institutional solutions" as being irrelevant to solving the problems of the secular life, which he accepted as being the meaningful life; he wondered, it seems, how the instrumental process or technological process succeeded in gaining at the expense of the institutional process? He knew, along with Veblen, that the institutional process was very strong and cohesive, some even thought it was invincible.

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<sup>3</sup>Ayres, Huxley, pp. 233-242.

Ayres's interest in Thomas Huxley's theories concerning biological evolution probably occurred as the result of his father's interest in Huxley. At least it appears from the Preface of Huxley, written in 1932, that this was the case. Therefore, after completing his doctoral dissertation in 1917 on "The Nature of the Relationship Between Ethics and Economics," and having had published Science: The False Messiah (1927) and Holier Than Thou (1929), he turned his attention to Thomas Huxley and became one of his biographers.

Ayres was an indefatigable reader. He showed a very avid interest in anthropology and science. His interests, as has been pointed out before, were kaelidoscopic in nature. He was seeking to find out in this study on Huxley, or so it seems, how man came to be human. Perhaps another way to phrase the problem is as follows: What are the causal elements in the evolutionary process which caused man to be more than animal while still being very basically animal in biological make-up? What was the engine of change that propelled man into the center stage of the animal kingdom? Most scientists had assumed because of "Darwinism" that man was distinctly separated from his animal past only because of his enlarged brain and natural selectivity. Ayres was not satisfied with these answers. Was biological selectivity the only key to his change or did man exemplify a quality unknown to other animals in a more distinctive "social sense?" That is, was man brutish and aggressive and only "slightly" above the primates or did he manifest differences which made him a superape?<sup>4</sup> Was he a unique

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<sup>4</sup>Ibid., p. 236.

animal, a social and cultural creation, just as surely as a biological species? Is there such an animal, Ayres seemed to be asking, as man qua man?

Ayres from the beginning, then, was interested in the philosophical as well as sociological questions concerning man. He wondered at the end of his life whether he should be called more ". . . a would-be philosopher than . . . a would-be economist."<sup>5</sup>

#### The Nature of Man

Ayres was convinced that man was not a "mind" and "body" dualism. Gruchy comments on this aspect of Ayres's thought, "According to Ayres the concept of an inner nature underlying man's behavior is a relic of the time when philosophers and social scientists held the view that 'body' and 'mind' are separate entities with mind being more substantial and fundamental than body."<sup>6</sup> Ayres represented himself early as a "behaviorist," using quotation marks to set this terminology off from any particular school of psychology and its usage. He intended to signify a basic understanding of man in uniform terms. Man exhibited ". . . neurons and language mechanisms," or "mental and body functions"<sup>7</sup> together and not separately. Dualism is the theory that reality is divided into at least two independent categories. Therefore Ayres was opposed to philosophical idealism with its emphasis

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<sup>5</sup>Ayres, Messiah, p. iii.

<sup>6</sup>Allan G. Gruchy, Contemporary Economic Thought, (Clifton, N.J.: Augustus M. Kelley, 1972), p. 97.

<sup>7</sup>Ayres, Gospel, p. 32.

upon man's mind as the "higher" integrator of his humanity, just as he was opposed to those who tried to make man "spiritual" and "material" in a separate sense. Man was a material organism, albeit a different kind of animal.

Ayres was convinced, in part, at least, that man stood beyond mere animal behavior in the sense that he made decisions and recognized certain consequences. This position was always a part of his "behaviorism" and it was to be the springboard toward a break with those social scientists he termed, at a later date, to be "moral agnostics." He said:

If we now bring mankind once more into sharp focus in the foreground, we can perceive with startling vividness as unpleasant fact; that men do not all like the same things nor hold the same things good. They do, of course, take a unanimous satisfaction in "life, liberty and the pursuit of happiness." But men are never merely animals. If they were, this unanimity would be significant. Cattle, also have a preference for life; and life for them means plenty of grass. But men are unanimous only about life. They do not all live on the same things by any means. Indeed, they<sup>8</sup> arrange to stay alive by inconceivably different expedients.

Ayres was at this time, therefore, facing what was to be a crucial issue for him later, namely, how can man be a product of his natural environment and yet progress materially in a variety of ways. At this point, the time of his writing Huxley and "The Gospel of Technology," Ayres was convinced that there was ". . . no such thing as 'true' culture. Civilization itself, in that sense is idolatrous and false."<sup>9</sup>

Ayres had earlier written about this dilemma of man's desire for

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<sup>8</sup>Ayres, Holier, p. 69.

<sup>9</sup>Ayres, Gospel, p. 26; Huxley, p. 242.

certainty and his frustration at being a "natural" self in these passages:

Evolution may be unproved, it may remain always "finally" inexplicable. It may suggest to some minds the probability of an omnipotent propelling force. Nevertheless, the descent of man remains the ascent of ape: not of any existing ape, to be sure--we are not baboons or orang-outangs!--but the ascent of some nicer ape, some sanctified brute, predestined by Omnipotence to be our parent, the undoubted anthropoid!<sup>10</sup>

But the one great intellectual deficiency of science is that its sweeping generalizations, whetted to a razor-edge of precision, nevertheless unfortunately concern realities which though they may be spread over the length and breadth of the universe are of an order of magnitude which excludes them forever from the joys and sorrows of human intercourse. Once more be it stated that we are concerned here not with inventions and appliances but with scientific "truth." More simply, scientific truths are not the truths that make men free. They are too true, too universal, too empty of humanity for that.<sup>11</sup>

Ayres was firmly convinced of two basic facts about man's development in these early works: (1) that man was not a "mind-body" entity but a material entity; and (2) science offered no solace for those who "wished" for the "verities" and "certainties" of human existence.

By 1932, Ayres had received from his exhaustive study of Veblen's works, although inchoately, the basic understanding of man's dichotomous nature. In a dualistic approach to understanding man, two parts of man are set over against each other as distinct entities and cannot be bridged, whereas in a dichotomous approach to understanding human nature, man is one, a singular entity, but there are two aspects to his wholeness. Perhaps

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<sup>10</sup>Ayres, Messiah, p. 196.

<sup>11</sup>Ibid., p. 218.



the best descriptive term, but still inadequate, to define this relationship is schism. Ayres wrote about this distinction in his The Theory of Economic Progress:

. . . Our worst confusions have had their origins in dualism.

This difficulty could be resolved if it could be clearly understood that the distinction of the technological and the ceremonial aspects of organized behavior is a dichotomy but not a dualism. That is, it undertakes to distinguish two aspects of what is still a single, continuous activity both aspects of which are present at all times. Indeed, they bound and define each other as do the obverse and reverse of a coin.<sup>12</sup>

Thus Ayres eliminated any bifurcation of human nature and considered man to be made up of two aspects constituting a whole. While man's technological activities can be distinguished from his institutional activities for purposes of analysis, man is still both and most likely always will be so.

Ayres was also convinced that biologically man was a stable quality and changed little over thousands of years. He wrote, "Biologically, man is the same animal he has always been. He is totally dependent for life upon exploitation of plants and animals."<sup>13</sup> But socially he was a creature of change, "The requirements of the stomach are one thing. Conditions of life are another."<sup>14</sup> So change altered the human outlook through reasoning,

<sup>12</sup>C. E. Ayres, The Theory of Economic Progress, (1944; rpt. New York: Schocken Books, 1962), p. 101.

<sup>13</sup>Ayres, Messiah, p. 122.

<sup>14</sup>Ibid.

"What is not obvious though it is incalculably important, is the effect of change. That effect is mental."<sup>15</sup>

As has been stated before, Ayres admitted in his last published writing<sup>16</sup> that he had failed to enumerate these two aspects of man, his technological industry and his institutional aggrandizement, until he wrote his article, "The Gospel of Technology," to be included in American Philosophy Today and Tomorrow, edited by Horace M. Kallen and Sidney Hook. This article was published in 1935. In this article he indicated that the human animal was a problem-solving animal with a dedication to "workmanship," that is, tool-development, and he was also the creator of a never-ending production of myths and ceremonies to brace his innumerable insecurities with certainties. In this article, he stated, "I have denounced institutional standards in toto as superstitious and debased and have advanced instead the materialist-instrumentalist standard because the two are absolutely opposed."<sup>17</sup>

The plan for this chapter is to deal primarily with Ayres's understanding of human nature. However, it is impossible to separate this basic dichotomy that Ayres used to describe man's nature from the discussion of his understanding of the "self." It is the intention of the writer, though, to deal more fully with Ayres's basic dichotomy of man's activities in Chapter Three.

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<sup>15</sup>Ibid., p. 123.

<sup>16</sup>Ibid., pp. iii-xii.

<sup>17</sup>Ayres, Gospel, p. 40.

It is clear that Ayres struggled with "three selves" in man, even though man was an essential unity. There are clearly levels of abstraction in his thought, but he consistently looked upon man as a unity. The three "basic selves" he identified were "the biological self," "the social self," and "the symbolic or cultural self." It is only in his later works that he came to a significant understanding of the "symbolic or cultural self." This understanding may have been concomitant with the same interests of anthropologists of the period, especially Alfred L. Kroeber, one of the greatest anthropologists America had yet produced. Kroeber believed culture to be "super-organic." He did not mean by this that culture created itself. It was man-made, of course. But it had an extension beyond the life-span of any one man. It had a partial existence which was of its own character, but, it was also obviously directly related to man. Kroeber stated:

"Superorganic" does not mean nonorganic, or free of organic influence and causation; nor does it mean that culture is an entity independent of organic life in the sense that some theologians might assert that there is a soul which is or can become independent of the living body. "Superorganic" means simply that when we consider culture we are dealing with something that is organic but which must also be viewed as something more than organic if it is to be fully intelligible to us.<sup>18</sup>

However, Ayres did not indicate how this change evolved. As his understanding of "dichotomy," it may have been inchoate for some period. He may have gained insight from Goldschmidt, Mills, Parsons, and it is possible, though perhaps less likely, that he knew of the writings of Leslie White and perhaps George Murdock. At least Ayres was firmly convinced of the life-

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<sup>18</sup>Alfred L. Kroeber, Anthropology: Culture Patterns and Processes, (New York: Harcourt, Brace and World, Inc., 1923), p. 61.

process as "ongoing" and an extension of man's symbolic activity.<sup>19</sup>

### The Biological Self

The major interest of Ayres in his early period, circa 1925-1940, centered upon evolutionary and technological change. As noted above, Ayres was both a materialist and a behaviorist; therefore he was attempting to discover how technological activity (man's tools and machines) changed man and why "Darwinism" was more comprehensive in theory than Charles Darwin's Origin of the Species. The nature of man was more than an evolved organism, and more than an acquired biological self. To be sure homo sapiens was a part of nature, irrevocably so, but this was not the be all and end all. His biological status was essential to his becoming man, but there was another ingredient which coexisted with his natural endowment and that was his social development.

Darwin was certainly right in maintaining that man could not have arrived except through a process of mutation, selection, adaptation, and species orientation, but Ayres was seeking the main "triggering mechanism" to man's total social change. Ayres saw clearly in his biography of Huxley written in 1932 what the essential ingredient must be: it was the social activity of man that raised him to the level of "superape." First, Darwin was not the author of "Darwinism" or the originator of evolutionary development. It had its roots as far back as Greek philosophy. Darwin's "unique scientific contribution to evolutionary theory was a series of formulas, natural selection, pangenesis, sexual selection and so on by

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<sup>19</sup>See C. E. Ayres, Toward A Reasonable Society, (Austin, Texas: University of Texas Press, 1961), pp. 31-35.

which he sought to resolve the enigma of how development takes place."<sup>20</sup>

Secondly, he thinks that Huxley may be as much the author of "Darwinism" as Charles Darwin, and stated, "In particular, I believe that Huxley 'created' the theory of human descent from anthropoid stock as definitely as any man ever creates anything."<sup>21</sup> Thirdly, the basis on which he could make this statement was, he was sure, that Huxley saw the social connections of man's evolution in a singularly distinctive sense and that Charles Darwin did not:

I think a detailed comparison of Darwin's and Huxley's published works would indicate very clearly that Darwin's interest focused from first to last upon the biological mechanisms by virtue of which development takes place, whereas Huxley's interest from first to last was focused upon man, man's relation to the anthropoids and the significance of that relationship for the integration of all things human. As everyone knows, The Origin of the Species mentions the human species only once and then on the penultimate page and with complete vagueness.<sup>22</sup>

What Darwin did was to stop short in his inquiry as to what made man human. He was content to rest his case with natural ascent and descent. Huxley, on the other hand, rested his case on social ascent:

"What is it," he said, "that constitutes and makes man what he is? What is it but his power of language which distinguishes man from the whole of the brute world? I say that this functional difference is vast, unfathomable, and truly infinite in its consequences; and I say at the same time, that it may depend upon structural differences which shall be absolutely inappreciable to us without present means of investigation. . . . But a race of dumb men, deprived of all communication with those who could speak, would be little indeed removed from brutes. And the moral and intellectual difference between them and ourselves would be practically infinite though the naturalist should not be able to find a single shadow of even specific structural difference."<sup>23</sup>

<sup>20</sup> Ayres, Huxley, p. 235.

<sup>21</sup> Ibid., p. 236.

<sup>22</sup> Ibid., p. 236.

<sup>23</sup> Ayres, Huxley, pp. 240-241.

Here Ayres sounds very much like Benjamin Lee Whorf, who believes that language actually "constructs" reality by conditioning the very social messages that are "coded" into culture.<sup>24</sup>

For Ayres, Huxley was the author of "Darwinism" and the interpreter of the theory of evolution because he understood the implications of social processes, processes in which man makes his own meanings and works out his own problems through language. It was only later, and gradually at that, that Ayres was to see fully the meaning of culture and the symbolic process, however.

#### The Social Self

In "The Gospel of Technology," Ayres labored to indicate his "behavioristic" approach to human development. He was not limiting himself, he stated, to schools of psychological orientation but was extending the concept in important ways. He was cognizant that even among social scientists a wider definition was sought. It was not only biological behaviorism that he sought to identify but social behaviorism as well. But he recognized full well that "behaviorism represents the whole trend of modern psychology, which has been without any important exception toward the correlation of behavior mechanisms with the organic structures on one side and the culture traits of civilization on the other."<sup>25</sup> The mystery of the self is thus demystified and denaturalized when both biological development and social development coexist:

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<sup>24</sup> Benjamin Lee Whorf, Language, Thought, and Reality, (New York: Wiley, 1940), passim.

<sup>25</sup> Ayres, Gospel, p. 34.

How important this synthesis is we can easily demonstrate by an experimental dissociation. If we imagine the study of all the organic functions of the human body to have been brought to its present pitch or higher by men totally ignorant of civilization's past and even present, it is obvious that they would be quite unable to account for human behavior mechanisms; and if we imagine a very full and complete stock of anthropological lore to have been accumulated by men wholly uninformed in anatomy and physiology, it is equally obvious that they would be at a complete loss to account for the continuity of the behavior patterns so completely recorded by their data. Both man and civilization are intelligible only when the two are regarded as obverse and reverse of the same phenomenon.<sup>26</sup>

Yet Ayres was not nearly as clear in these assessments as was to be the case in his later writings. In both The Theory of Economic Progress (1944) and The Industrial Economy (1952), he was to bring his reasoning about the social self into sharper focus, and finally in Toward a Reasonable Society, to reach what this writer considers to be a remarkable synthesis, a representative sociological-anthropological synthesis, one that parallels the social thought of George Herbert Mead<sup>27</sup> and the anthropological thought of Leslie A. White.<sup>28</sup>

Ayres in his earlier writings had stated, "The weakness of evolution in Darwin's time--and this is still its weakness--was the absence of any sound clue to the forces which bring about modifications of the species."<sup>29</sup> He had in the beginning a rather incomplete notion as to the place of society

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<sup>26</sup>Ibid., p. 34.

<sup>27</sup>See George Herbert Mead, On Social Psychology, ed. Anselm Strauss, (Chicago: The University of Chicago Press, 1956).

<sup>28</sup>Leslie A. White, The Evolution of Culture, (New York: McGraw-Hill Book Co., 1959); The Science of Culture, (New York: Grove Press, Inc., 1949).

<sup>29</sup>Ayres, Theory, p. 93.

as the engine of change vis a vis "civilization," i.e., "culture." But he had a much clearer notion of technology, industrial forces, and the "workmanship of civilization" as the sources of change. He knew that significant changes occurred with the development of tools and the industrial revolution. But as would be evident in his later works, after 1940, he began to see what Huxley had anticipated, that is, how both man's tools and his cultural creations served as the agents of change, together and originally. One must surmise that his continued interest in Veblen, Dewey, anthropology, sociology, psychology, economics and history brought this fusion into greater perspective. In Ayres's middle writings, The Theory of Economic Progress and The Industrial Economy, he maintained that man was "wholly organic and wholly social."<sup>30</sup> Ayres never deviated from his recognition that man was a social product, but his understanding of cultural and social meanings were now emerging into clearer focus.

Ayres showed a familiarity with the writings of Charles Horton Cooley and quoted Cooley's social theory that no person can exist separate from other persons.<sup>31</sup> It is a peculiarity in Ayres's development that he often fails to explain the social theories of other contributing scholars in detail. Here he failed to go ahead and enumerate Cooley's theory of the theory of the "Looking Glass Self." This theory would have comported well with his emphasis upon the social self. The concept of the self, according

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<sup>30</sup> Ayres, Theory, p. 93.

<sup>31</sup> Ayres, Theory, p. 91.



to Cooley, is one that one builds with the help of others.<sup>32</sup> There are three steps to Cooley's conceptualization of this "social self." First, our perception of how we look to others; second, our perception of their judgments as to how we look; and third, our feelings about these judgments. It would have seemed pertinent for Ayres to have quoted Cooley more extensively on this aspect of the self, but he seems to have been far more interested in merely establishing the social relationship than exploring it fully.

At this point, circa 1944, Ayres's interest seemed to have turned more to an analysis of cultural factors involved in the making of the "self," rather than interpersonal factors. He now conceived of culture in much the same manner as A. L. Kroeber and his emphasis upon the "superorganic" nature of culture.<sup>33</sup> He stated, much the same way as Kroeber, that culture was "the organized corpus of behavior of which economic activity is but a part, is a phenomenon sui generis. It is not an epiphenomenon, a result of something else, explicable in other and non-cultural terms."<sup>34</sup> Ayres had come to see culture as extrasomatic in its nature. But it is in Toward A Reasonable Society that he emphasized the "symbolic self" in this process. There he made explicit that human development was possible only by man's use of symbols. Indeed, in this work he showed that man and culture emerged together through the symbolic

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<sup>32</sup>C. H. Cooley, Human Nature and the Social Order (New York: Charles Scribner's Sons, 1902), pp. 102-103.

<sup>33</sup>A. L. Kroeber, pp. 60-73.

<sup>34</sup>Ayres, Theory, p. 95.

process, symbolic tool-activity and extrasomatic extension of this activity.<sup>35</sup> Before moving to this emphasis upon the symbolic process, however, Ayres stressed the "social framework" as the agent of change in a new dimension.

In The Industrial Economy (1952) Ayres stated that the "whole conception of the nature of man and of society is now known to be quite false. Human nature as we know it is not antecedent to society. On the contrary, it is a function of society."<sup>36</sup> He indicated social conditioning in even stronger terms: "It is a truth now recognized by all students of all social sciences and as fully established as any intellectual principle can be, that in the absence of organized society there could not exist any such being as man. That man and society evolved together; and that human nature is a social phenomenon not a biological one."<sup>37</sup>

In Toward a Reasonable Society, Ayres sounded remarkably similar to George Herbert Mead, whose theories of human interactionism may have been familiar to him,<sup>38</sup> although he does not make an extensive association clear. As previously noted, this was one of the weaknesses of Ayres's writing. He did not document extensively. Perhaps he thought that it was too "ceremonial" to stoop to such elaboration. But Ayres started to use the "symbolic imagery" in a new way, and he must have derived this "concept"

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<sup>35</sup> Ayres, Society, pp. 71-86.

<sup>36</sup> C. E. Ayres, The Industrial Economy (Boston: Houghton-Mifflin, 1952), p. 11.

<sup>37</sup> Ibid.

<sup>38</sup> Ayres, Theory, p. 163, n. 6.

from other sources. Mead had said, "thinking always takes place by means of some sort of symbols,"<sup>39</sup> and symbols were seen to be universals, that is, recognized without additional elaboration. This is the emphasis Ayres used in Toward a Reasonable Society. Mead believed, as is well known, that human nature was a process and not an entity. He did not make a "thing" of the self. Therefore, the social process for Mead was positive, quite the reverse of Sigmund Freud's "superego," which inhibited, curbed, or censored spontaneity. He saw the cooperative aspects of man's interaction, the "me" or the outside and objective world making the "I" or inward and spontaneous part of the self possible. But the individual was in essence social, since both the objective world and the subjective "I" interact to form the self. Still, the self was never static; it changed as new situations and new experiences occurred. Mead's concept of the self was the self in process. Mead asserted: "No hard-and-fast line can be drawn between our own selves and the selves of others, since our own selves exist and enter as such into our experience."<sup>40</sup> So, the "I" really appears experientially as a part of the "me."<sup>41</sup>

Thus Mead was dealing with social behavior on one level of abstraction in the same sense that Ayres was developing his social theory along at least two lines of abstraction. Ayres was wrestling not only with the dichotomous nature of man as to "industry" and "myth-making" but also as to the dichotomous nature of "symbols" and "culture" as outside entities and yet within man as symbolic tool-activity.

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<sup>39</sup>Mead, p. 210.

<sup>40</sup>Ibid., p. 227.

<sup>41</sup>Ibid., p. 31.

Mead did not show a great interest in cultural development. He was more interested in the social psychology of the self or the psychological understanding of the self in process, not culture as an extrasomatic extension of man's activities. He knew that selves were created by a process of socialization that included culture, but he did not clearly set forth a theory of culture. This is not to say, however, that he did not see society as the creator of customs, mores, and institutions. He was certainly fully aware of institutions and society and their place in human development. But Mead did not pursue a theory of technological behavior as a part of the human process, as a part, that is, of the engine of change.<sup>42</sup>

Ayres, then, arrived at the same socialization theory as Mead yet with even broader implications. He was from the very beginning of his writings interested in both the input of society and the creative "workmanship" of man. Later he was willing to designate culture as one of the basic elements in this change and to view it far differently than "civilization" that he had used in his earlier writings. He came to use the concept in the sense of "the whole way of life of a people" and "the extension of their symbols and artifacts" beyond the lifetime of a people. He stated:

Every human being becomes human in the behavioral sense only by assimilating such a body of action patterns. At birth he is human only in the zoological sense. His body is that of a member of our species; but he is utterly incapable of behaving as all human beings do (for instance, he is utterly unable to communicate languagewise) until he has learned a set of action patterns by virtue of which he is able to participate in the activities of a community among whom that set of action patterns already prevails.<sup>43</sup>

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<sup>42</sup> Ibid., pp. 249-282.

<sup>43</sup> Ayres, Society, pp. 74-75.

And he elaborated, that the more strongly we absorb the "social meanings and symbols;" the more sure we are that this is our active self.<sup>44</sup>

The difference between Mead's concept of socialization and that of Ayres lies in the part tool-behavior played in human development. For Mead, socialization was symbolic, interpersonal interaction, but for Ayres, it was social tool-behavior: "A prime characteristic of the symbolic process is its indefinite extensibility."<sup>45</sup> Tool behavior or the symbolic process was both ongoing and immediate; it used the past as an engine of change and built upon it. It created anew to solve whatever problems became important: "So likewise tools and instruments and all the physical apparatus of culturally organized existence, being physical, accumulate and since new and improved tools and apparatus result from combining and refining of old ones, the more there are the greater is the opportunity for still further development."<sup>46</sup>

#### The Symbolic Self

It may seem at first glance that there is only a superficial difference between the terminology of a social self in the thought of Ayres and that of a symbolic self, but this concept became the central delineation of meaning which Ayres used to define technological behavior. A tool for Ayres meant any symbol or artifact that, whenever used in a prescribed manner, has the same observable effect. Ayres stated: "Human thought, like human

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<sup>44</sup>Ibid., p. 56.

<sup>45</sup>Ibid., p. 92.

<sup>46</sup>Ibid., p. 93.

activity, presents two aspects. In one of these man reasons toolwise from cause to effect, and the product of his reasoning is knowledge, however limited, of the uniformities of nature. Thus rubbing of a bronze lamp invariably removes the tarnish and produces a high polish, no matter who does it, and no matter what the concomitant circumstances may be."<sup>47</sup> What makes his concept of symbolism more difficult to understand is that he juxtaposes the "symbolic process" alongside the "cultural process." Ayres reasoned:

What most needs to be stressed in this connection is that technology--the tool-using aspect of human behavior--is not something separate and distinct from the societal network of personal relationships. It permeates all such relationships. This is a point of the utmost importance . . . The most serious error one can make with regard to human experience, society, culture, and all related matters is that of thinking of technology as "external," outside us, as aspect of the physical environment of individual men and even of societies. In truth it is none of these things. All tool-using is social. What Adam Smith called "the division of labor" as defined and required by tools--required not in the sense of the exercise of arbitrary authority but in the sense that the job in hand can be done only by four or more hands working together, hands which in the nature of the case must belong to two or more persons.<sup>48</sup>

At times Ayres used culture to indicate the symbolic tool process as above; at times he used culture to indicate the institutional process;<sup>49</sup> and at times he used culture to indicate the extension of man's artifacts and concepts or symbols, in an extrasomatic sense.<sup>50</sup>

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<sup>47</sup>Ibid., p. 129.

<sup>48</sup>Ibid., pp. 77-78.

<sup>49</sup>Ibid., pp. 126-127.

<sup>50</sup>Ibid., p. 75.

Ayres thought of culture along two lines of abstraction, the extrasomatic character of physical tools and symbols that have extensibility, and also the social process by which culture is absorbed and created. The "symbolic process" is a part of man and survives man in an extrasomatic form. Symbols were both material and non-material, that is, artifacts and concepts embodied in culture. Ayres stated:

The study of primitive cultures by which all our social thinking has been so profoundly affected, involved two distinct orders of data. One consists of physical objects: the tools, weapons, accouterments, charms, fetishes, ikons, and all the other physical apparatus of life in any given community; and the other consists of all the rest of culture of that community. The former is called the community's material culture and the latter its non-material culture.<sup>51</sup>

What is intriguing about the concept of culture as presented by Ayres is the juxtaposing of symbolic behavior alongside cultural behavior. He believed that conceptual tools were as functional in the progress of man as were his physical artifacts and they bore a contextual relationship. Ayres stated: "Social theorists have sometimes pondered the question which came first, culture or society. But as knowledge accumulates this seems more clearly to be a hen-and-egg conundrum. Clearly culture, defined as a body of activity patterns and society, defined as an organized community, are aspects of the same phenomenon. The creation of interpersonal relationships is a function of culture."<sup>52</sup>

As has been previously stated, Ayres was by no means the first to indicate that technology is the prime agent in moving man toward change. The writer who appears to come closest to Ayres's understanding of man is

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<sup>51</sup>Ibid., p. 78.

<sup>52</sup>Ibid., pp. 75-76.

Leslie A. White. There is every indication that Ayres worked independently and White does not give Ayres credit for his thought. White believes that man has two main aspects in his make-up: Technology or tool-making and his social side. White believes that man and culture arrived together, because man could do what no other animal could, namely, "symbolize." This makes him different in kind and not in degree, as Darwin had believed, from all other animals. Man must create physical tools as these are essential to his security. For White, though, the physical tools are the basis of his symbolizing. Therefore, physical tools not only provide man with security, they are dominant in his social arrangements. Man, according to White, has two types of needs: "(1) those that can be served only by exploiting the resources of the external world; and (2) those that can be served by drawing upon the resources of the human organism only."<sup>53</sup> Man has two types of security needs, one physical, and one "spiritual" or "interorganismal." But White consistently maintains that it is man's physical tools that dominate his social meanings. For White, the social behavior of man, the sentimental and attitudinal nature of man, and the ideological or philosophical production of man result directly from symboling based upon his physical tools. "The technological factor is the basic one; all others are dependent upon it."<sup>54</sup> In this sense White becomes a technological determinist, since man is incapable of "conceptualizing" beyond what his technology allows.

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<sup>53</sup>White, Evolution, p. 9.

<sup>54</sup>Ibid., p. 19.



There is, therefore, a fundamental difference between Ayres and White, despite striking similarities. For Ayres, the symbol is a tool in itself, a normative instrument, just as the physical tool is a proven instrument, of change. But for White the symbol is a reflection on man's physical tools, which is a part of his brain direction. Man cannot move beyond what his material creations dictate. White makes this causal relationship explicit in this statement:

If it be argued that technologies could not exist without ideas--and it is of course a matter of empirical observation that technologies do not exist apart from ideas--and that therefore tools are dependent upon ideas, it may be countered, first, that ideas can be significant and effective in the maintenance of life only by receiving expression through technological means, and hence are dependent upon them, whereas the technological culture is significant directly. Secondly, in associations of technologies and ideas, one can account for idea systems in terms of technologies, and technologies can be explained in terms of the physico-chemical, mechanical means of adjustment of one material body to another. But if one explains technologies in terms of ideas, the ideas are either unexplained or are accounted for by appeal to other ideas, which amounts to the same thing.<sup>55</sup>

Ayres used "technology" in a vastly different sense to White, for he understood physical tools and symbolic tools to be reciprocal:

But in fact we have no warrant for supposing that ideas are more real than things. If we approach the problem of reality in the full light of our knowledge of the symbolic process, it becomes quite clear that the reality of idea-symbols, though genuine, is in no sense superior to that of things. Symbols are a different order of reality from things, but not a "higher" order. If precepts without concepts are meaningless, it is likewise true that concepts without precepts are blind--which is only Kant's way of saying that symbols could not exist without things any more than man could make use of things without symbols. In short, there is only one form of knowledge, the knowledge man has acquired in the course of his technological activities, activities in which things and symbols are fruitfully combined. Apart from

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<sup>55</sup>Ibid.

those activities, symbols lead only to illusion.<sup>56</sup>

It is difficult to summarize Ayres's thought on these points relating to the "symbolic or cultural" self. There is a great amount of ambiguity in the levels of abstraction used. Perhaps this must be, as the ideas dealt with have a complexity recognized by other writers.<sup>57</sup> It is not difficult to understand where the problem lies. The difficulty is in presenting a comprehensive view of symboling, culture, society, technology, and tool-behavior. Ayres revealed this frustration in a very telling sentence: "As I have been saying repeatedly, what we sometimes call 'human nature,' sometimes 'society,' and sometimes 'culture,' has two contrasting aspects. This is no new insight. Throughout the ages thoughtful men have pictured the human race as drawn one way by white horses and another by black."<sup>58</sup> The difficulty is that these terms indeed seem to have a basic relationship in Ayres's thought, but they also stand apart and carry other meanings. Ayres might have gone on to state that no matter how comprehensive the theory, the process being described seems to be limited by its paramount complexity, but he did not.

The problems Ayres sought to answer are simple enough to enumerate: How is culture an internal entity and how is culture extrasomatic? What is symboling and how is it a part of the human self? How is tool-behavior represented both by the creation of physical instruments and by conceptual

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<sup>56</sup> Ayres, Society, p. 107.

<sup>57</sup> Howard Becker and Alvin Boskoff, Modern Sociological Theory (New York: Holt, Rinehart, and Winston, 1957), p. 296.

<sup>58</sup> Ayres, Society, p. 76.

tools? Are interpersonal relations or human interactions necessary to a tool-complex? How does the individual function as both a self and a corporate part of society? What term can you use to sum up this whole process of material and non-material production on the part of man?

The term Ayres used to sum up the whole human process was "technology," but he knew the parts in the puzzle to be "human nature," "society," and "culture." Man was human by virtue of his ability to use symbols, by which Ayres meant more than the creation of physical tools; the non-material and normative symbol itself was surely a tool. Symbolic tools are not used in isolation; they are socially conceived. The "symbolic self" is, in Ayres's social thought, it seems, indisputably related to the "social self," but includes much more than a vast array of interpersonal relationships. The "symbolic self" includes man's "technical skills" and his "interpersonal skills" in a contextual relationship. The "symbolic self" is so extensive that it probably should be described as the "cultural self," which would include both man's "way of life" and "the extension of his life through technology."

#### Summary

In presenting a summary of Ayres's thought concerning the human self, several stages in his thought must be kept in mind. He was convinced early in his career that the distinctive change agents affecting man's self were technology and social conditioning. While these distinctions were part of Ayres's early writing, he had just started to develop a social theory based upon Veblen's "institutionalism" and Dewey's "instrumentalism."

The social theory that Ayres developed in these formative years placed emphasis upon man as a social creation and not fundamentally a biological entity.

The biological self for Ayres was merely a "personal identity." It was the constant while society was the variable. He made this distinction clearly in Toward a Reasonable Society, where he stated, "But human activities and experiences are always social and cultural, whereas 'personality' is individual."<sup>59</sup> To talk about "biological man," as a complete person was a misnomer, according to Ayres. Certainly there is a biological part to human nature, just as there is often a known chemical basis to physical reality. But biologically, man, while evidencing a great variety, is essentially the same as he was fifty thousand years ago in structural make-up: His symbol-using ability has been expanded perhaps, as I. Q. may expand throughout the species, but "the fact remains that since the advent of the present species, something like fifty thousand years ago, there is no evidence of any change in the brain power of the species generally."<sup>60</sup> Ayres thus thought "concepts such as 'individualism,' 'freedom,' 'privacy,' and 'enterprise,' are not only vague; they are tendentious and ambiguous."<sup>61</sup> When the conditions of life change, the personality changes as well. There is no such quality as Human Nature

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<sup>59</sup>Ayres, Society, p. 118.

<sup>60</sup>Ibid., p. 93.

<sup>61</sup>Ayres, Theory, p. 89.

spelled in capital letters.<sup>62</sup> Ayres found in Thomas Huxley's understanding of evolutionary theory the emphasis upon the change agent that made man human, as he stated, "Huxley was right, of course, in declaring that science (and we may add industrial technology) began when man first began to pick up sticks and stones and use them as tools."<sup>63</sup>

In his later works Ayres began to expand his culturological theories and to place them within his dichotomous framework. He stated, "There is no people and no individual to whom technological competence is not a genuine reality."<sup>64</sup> There is a basic continuity in the symbolic or tool-using process. It is ongoing because it is problem solving.<sup>65</sup> He affirmed, "Tools are of all degrees of generality. Thinking itself is a tool operation; for in the most general sense, the ideas with which men's heads are furnished are intellectual tools. How anybody goes about solving any problems depends almost altogether upon what ideas (or concepts) which are at our disposal that determine the form of the questions we ask."<sup>66</sup>

Ayres continued to develop two aspects of the self, the basic dichotomy of human enterprise, throughout his life. Technological behavior was social, functional, and productive, albeit never "absolute." Institutional behavior was irrational, non-productive, and basically wasteful.<sup>67</sup> The self was a complex that was socially conditioned and was tool-using in

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<sup>62</sup>See discussion in Ayres, Society, p. 120.

<sup>63</sup>Ibid., p. 92.

<sup>64</sup>Ayres, Theory, p. 159.

<sup>65</sup>Ibid.

<sup>66</sup>Ayres, Economy, pp. 37-38.

<sup>67</sup>Ayres, Messiah, p. iv.

nature. Culture consisted of both physical tools and conceptual tools. "Ceremonial tools" may take on a quasi-technological function, but they were never the "real thing." The dynamic change-agent in man is his "symbolic self," which undertakes to solve the basic problems of life. It is this process that is ongoing--a means-ends-means continuum.

Ayres's very complex theory about man's "selves" makes his social theory attractive from a sociological viewpoint. Many social scientists have set forth various change-agents, psychological theories based upon Freud, interactionist theories based upon Mead and Cooley, functionalist theories based upon a social-institutional equilibrium, mechanistic and behavioristic theories based upon organic causal factors, and technological-economical theories based upon material dominance, but Ayres's social thought is comprehensive in that it incorporates the aspects of the "self" into a contextual framework of "biological," "social," and "cultural," processes. Ayres's theory stands in the mainstream of sociological theory in its emphasis upon social and cultural components in man's development, but it is unique in its emphasis of the two aspects in man, which Ayres viewed as a dichotomous whole, tool-behavior and institutional behavior, which will be dealt with in detail in the next chapter.

CHAPTER THREE. THE DICHOTOMY OF SOCIAL ACTION: TECHNOLOGICAL AND  
INSTITUTIONAL SOLUTIONS

The first step in Ayres's development of his dichotomy of social action was taken in Science: The False Messiah (1927). As has been stated before, he did not identify the dichotomy as such at this time. But with the writing of Holier Than Thou (1929), he expressed both aspects of the life process, if inchoately. In Science: The False Messiah, he did not intend to depreciate the contribution of science to the ongoing life process, but he did "demythologize" science conceived as merely a body of facts. Science was a process, that is, the science that Ayres considered to be worthy of that title. He attempted to make this clear: ". . . the facts upon which science rests turn out to be machines. In the beginning is a machine--say, for example, the famous oil drop machine on which minute particles of oil of measurable size are sprayed into a vacuum and certain 'rays' are allowed to enter."<sup>1</sup> Thus, science for Ayres, was not fulfilled in theory only but also in its application. He agreed with John Dewey that life is not merely the knowing but the doing, and so with science, while it is represented in the knowing, it should be most interested in the doing. The two go together.

Ayres believed that science could be institutionalized and in that sense be "theory" and not "technology," the problem solving aspect of the

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<sup>1</sup>Clarence E. Ayres, Science: The False Messiah, (1927; rpt. Clifton, N.J.: Augustus M. Kelley Publishers, 1973), p. 53.

dichotomy. But Ayres conceived of "institution" in a very specific sense, a broad sense. The term "institution" did not represent merely social or formal organizations but also functional categories. He stated:

That is, it does not refer merely to the division of the total substance of society into its constituent parts. It is, rather a functional category. As such it has reference to a certain type of social organization or a certain aspect of social behavior, which is qualitatively different from another aspect, or aspects, one in which different forces are at work to different effect from those to be observed in other aspect, or aspects of social organization.

There is nothing difficult or subtle about this functional distinction. If we proceed directly to the analysis of what we will regard as "typical" institutions all possess it in the same degree as they possess the quality of institutions.

One peculiar feature which the "typical" institutions all seem to exhibit is that of the determination of authority. They define the various ranks into which people are divided, and the types and degrees of authority that are to be exercised by each and of subservience that is to be expected of each . . . .<sup>2</sup>

Thus, science could be institutionalized in the sense of a final authority but the technological process could not since it was experimental. Science could be institutionalized if it made its "lore" or "dogma" an "entity" in itself and irrelevant to the ongoing life process. Science, the great hope for man, would then be truly the false messiah. He ridiculed its lofty dogmatic authority in these words: "In making their case for science, the modern prophets appeal directly to our credulity precisely as Moses did."<sup>3</sup> What Ayres intended to imply is found in the

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<sup>2</sup>C. E. Ayres, The Industrial Economy (Boston: Houghton-Mifflin, 1952), pp. 42-43.

<sup>3</sup>Ayres, Messiah, p. 43.



old Biblical adage, "By their works you shall know them." It is not by faith in a body of facts that the messiah comes, meaning the human welfare, but by demonstration.

Ayres was perturbed that scientists during the period of the 1920s seemed contented to view science as a body of facts without connecting their conclusions to the life process. He was well aware that scientists must lead the way to change, for science cannot be mastered by the masses. He stated, "Science can not be the intellectual background of the common man, and never will be--barring the realization of that Shavian dream of a new race of man who will have the remarkable faculty of passing on the higher mathematics to their progeny like a family resemblance."<sup>4</sup> The scientist had an obligation, that is, to be cognizant of the many areas of life affected by his work and to set forth by demonstration new paths for human progress. The tremendous developments that are freeing men from old "myths" are not just scientific formulas but actual technological improvements:

But this is only the logical aspect of the case. There is also the dramatic. Tremendous changes have come to pass in the last few centuries. We have solved many problems; and each solution has left us with a new technique, so that we seem to be better equipped for solving others with each century and decade. Not only has the chariot of progress come thundering down the ages; equipped with the sleeve-valve engine and the counterbalanced crank-shaft, it is now vibrationless at the highest speeds, as the advertisements say.<sup>5</sup>

Even with its enviable position, then, science must play second fiddle to the true messiah, the innovation of machines, or tools, skills, technology,

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<sup>4</sup>Ibid., p. 32.

<sup>5</sup>Ibid., pp. 206-207.

or civilization (later to be identified with "culture" but "civilization" was the fashionable term at this period). He maintained, "Science is the handsome Doctor Jekyll; machinery is Mr. Hyde--powerful and rather sinister. Science is the Pentateuch of technology--what we have been given to believe by your new machine-made folkways."<sup>6</sup> Science as fact and theory is not the engine of change. Scientists who admire their new-found status should realize " . . . that the driving force behind science is machine technology and they would have understood that machine technology as a whole, and not merely the verbal promulgations of scientists, is responsible for the dislocations of European culture."<sup>7</sup>

Later Ayres realized that science was changing, and he began to see it in a new sense. He was always convinced that it was the "thinking" part of the "technological" process, and he was fond of using Dewey's description of the relationship:

. . . borrowing a figure of speech from John Dewey, I have been identifying science as the "thinking" aspect of the tool-using process and technology as the "doing" aspect of the same process. Neither is possible or conceivable except as an aspect of the other. Science advances through and with the advancement of the relevant apparatus (including the apparatus of mathematics) and vice versa.

So conceived, science is irrelevant to the whole universe-of-discourse of messiahship, and vice versa. But in common discourse in all languages we employ the term "science" to identify not only what scientists (or would be scientists, or quasi-scientists, or mock-scientists) do, also what they say--with whatever degree of professional authority or intellectual justification. It was, of course, this aspect of "science" whose supposed "messiahship" I was discussing in this book (Science: The False Messiah). When I wrote,

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<sup>6</sup>Ibid., p. 19.

<sup>7</sup>Ibid., p. 113.

as the first "thesis to be nailed to the laboratory door":  
 "That the truth of science is established only by belief,  
 after the manner of all folk-lore," I was of course<sup>8</sup>  
 characterizing the literature produced by scientists.

Throughout this work Ayres made these central points over and over again, almost ad infinitum. He wrote in another work along the same train of thought:

In this transformation what we call science is a dynamic force not because of "the power of the idea" but because what we call science is one aspect of a much greater and more potent social force: Technology. The reason we have always found it so difficult to define science satisfactorily is that we have taken it out of its cultural setting, made it an academic abstraction, and tried to describe the essence of what was in fact a fragment. Science is an activity of handling materials with instruments. No line can be made to lie between scientific instruments and any other kind of machine or tool or workmanlike device except whether or not the tool or instrument is used to work materials . . . . . Science can of course be described as a state of mind, but only as a state of mind of that activity: The material state of mind, the instrumental state of mind.<sup>9</sup>

The true scientist is not interested in public acclaim, as Ayres viewed him, but he is interested in experimenting, finding out, and demonstrating by continuous inquiry. Facts are to be employed, not encased or entombed. Near the end of his life Ayres believed that the new science was written much more appropriately and more in keeping with the life process. "We are told that the cosmology (if such it be!) of Planck, Einstein, Heisenber and their co-workers cannot be set forth in language of the multitude. It is totally irrelevant to the folk-lore of

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<sup>8</sup>ibid., pp. vi-vii.

<sup>9</sup>Clarence Edwin Ayres, "The Gospel of Technology," in American Philosophy Today and Tomorrow, eds. Horace M. Kallen and Sidney Hook (1935; rpt. Freeport, N. Y.: Books for Libraries Press, 1968), p. 38.

the past generation and vice versa."<sup>10</sup> Ayres appreciated this process-posture of the new science. Essentially then, Ayres wrote this earlier work as a protest against scientists who took themselves too seriously as revealers of permanent truths.

In his later work, Holier Than Thou, Ayres looked upon "institutions" as the resisting side of man's technology. Institutions as Ayres conceived them were more than material embodiments or social organizations--they were attitudes, traditions, patterns of behavior, and established authorities. They existed in the social framework of cultural activities just as surely as did rocks or trees in nature or automobiles and houses in the physical sense. What Ayres had learned from Veblen was that this dichotomy of human activity, technological-instrumental and institutional-ceremonial, was a part of the same matrix and not from different matrices. So even though these behavior functions can be separated conceptually for analytical purposes, they can never be separated in their common cultural or social matrix. This is the meaning of dichotomy. Veblen had seen these two aspects of human activity clearly, although he more often talked about "workmanship" and "ceremony," than "technology" and "institutional," but the meaning was inescapable. On "institutional behavior," Veblen wrote:

Like all human culture this material civilization is a scheme of institutions--institutional fabric and institutional growth. But institutions are an outgrowth of habit. The growth of culture is cumulative sequence of habituation, and the ways and means of it are the habitual response of human

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<sup>10</sup>Ayres, Messiah, p. viii.

nature to exigencies that vary incontinently, cumulatively, but with something of a consistent sequence in the cumulative variations that go forward . . .<sup>11</sup>

Ayres was convinced early in his career that Veblen's "Institutionalism" represented one side of social behavior. He wrote:

What chiefly determines a man's attitude toward alterations in the mores is the point at which the social shoe abrades his foot. Unhappy couples are more tolerant of divorce than happy ones. Young people are more tolerant of contraception than old people and the professional celibates. Women are more sensitive to feminism than men. But most especially, the rich, the powerful, and the successful and even the merely hopeful are vastly more concerned to maintain the status quo than the poor, the helpless and those without hope as things stand at present. We sometimes hear the complaint against socialists and communists that they are ill-considered men, gauche, greasy and guttural. But what do we expect to find social revolutionaries, suave cultured, delicately scented men, with oxford accent and ultra-ritzy manners? The poor too, enjoy their caricatures. They see the conservative always as a paunchy man, grossly over-fed, over-decorated, under-exercised.<sup>12</sup>

Ayres believed that the institutional ways of behavior made sense to participants even if they were irrational to others. Habit reinforced positions in the same sense that symbolization created them. With Veblen, Ayres held that "an institution is of the nature of a usage which has become axiomatic and indispensable by habituation and general acceptance."<sup>13</sup>

Veblen said in another instance:

. . . an institution is an historical growth with just as much of a character of permanence and continuity of transmission as is given it by circumstances out of which it is grown. Any institution is a product of habit, or perhaps more accurately

<sup>11</sup>Thorstein Veblen, The Place of Science in Modern Civilization (New York: The Viking Press, 1919), pp. 240-241.

<sup>12</sup>Clarence E. Ayres, Holier Than Thou, (1929; rpt. Clifton, N. J.: Augustus M. Kelley Publishers, 1973), pp. 223-224.

<sup>13</sup>Thorstein Veblen, Absentee Ownership and Business Enterprise in Recent Times (New York: R. H. Huebach, Inc., 1923), p. 101 n.

is a body of habits of thought bearing on a given line of conduct, which prevails with such generality and uniformity throughout the group as to have become a matter of common sense.<sup>14</sup>

Ayres was convinced as well about the control of "institutional habit":

In the main, the control of morality is secure. Social emulation is stronger than the division of the classes. It arises from the very character of human herd behavior. In our domesticated life we proceed by habit and tradition, that is, by doing as others do; and in spite of slight risks here and there, we are a civilization by virtue of that inner necessity which impels us all to look in the same direction--the successful condition--of all righteousness.<sup>15</sup>

As Ayres developed his theory of value, he became more and more convinced that "institutional behavior" was debilitating and wasteful, a position he was to soften somewhat in time. Perhaps he realized it was almost as irreversible in its strength as technology was in motivating change. But this would be to nullify his central theme that technology brings change by overturning the inadequate institutional patterns of behavior. This was Ayres's thesis of human progress which will be dealt with in Chapter Four. One of Ayres's most caustic statements about institutional behavior is the following: "The whole scheme of power-relationships which we call institutions and usually mistake for civilization is savage in origin, depraved in character, and false in thought."<sup>16</sup> But when he wrote later, he had modified his harshness and had come to accept some aspects of ceremonial or institutional behavior:

The point is that ceremonial values do not exist in isolation. Always they constitute a system. That system is a quasi-causal

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<sup>14</sup>Thorstein Veblen, An Inquiry Into the Nature of Peace and the Terms of its Perpetuation (New York: The Macmillan Co., 1917), p. 91.

<sup>15</sup>Ayres, Holier, p. 178.

<sup>16</sup>Ayres, Gospel, p. 32.

system. In origin it is an extrapolation of tool causality and hence of uniformities of nature, of which it is a simulacrum. Hence the validity of the ceremonial system cannot be asserted without indirect assertion of the reality of the technological process and the validity of technological values. When social scientists assert that values derive solely from the convictions of the peoples who adhere to them,<sup>17</sup> they are necessarily and inevitably asserting the contrary.

Strassman commenting on this change says, "Another development in Ayres's thought was increased understanding, one might almost say appreciation of ceremonial thought and behavior patterns. In the 1940s he cursed these as pure humbug that allowed the strong to exploit the weak, and inefficiently at that. A decade or two later he came to see that the more numerous weak fell for the trick only because ceremonialism was pseudo-technological. . . ."<sup>18</sup> Still, Ayres never conceded too much, for he was firmly convinced that ceremonialism could check technological growth and progress, but only for a time, and that "institutional behavior" could never be more than a simulation of technological-symbolic usage. One of his final statements clarified the issue: ". . . some symbolism has operational validity and some does not; and if we firmly recognize this basic truth, the relationship between the two orders of symbols then becomes unmistakably clear and the enigma resolved."<sup>19</sup>

Basically, Ayres maintained that institutional behavior was founded upon tribal legends, upon theological beliefs, social statuses, ceremonial inadequacies, customs, and sentiments. Opposed to these were the rational

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<sup>17</sup>C. E. Ayres, Toward a Reasonable Society (Austin, Texas: University of Texas Press, 1961), pp. 133-134.

<sup>18</sup>W. Paul Strassmann, "Technology: A Culture Trait, a Logical Category or Virtue itself?" Journal of Economic Issues, VIII (December, 1974), p. 675.

<sup>19</sup>Ayres, Society, p. 31.

elements of tool-behavior. But ceremonial behavior is strongly resistant to change, and it is greatly irrational. Ayres remarked: "However brilliant a young scholar may be and however genuine his contributions to the sum of human knowledge, the fact that he has not 'taken his doctor's degree' is accounted a blemish on his character."<sup>20</sup> The authority in insitutionalism is vested in superordinates or shamans. "In ceremonial investiture 'mana' flows from the person of the chief, just as one 'takes courage' from association with persons of superior courage."<sup>21</sup> So, "not only does ceremonial behavior determine status by the ritualistic transfer of mystic potencies; it does so by virtue of a set of beliefs of which all 'ceremonial adequacy' is an expression, or in which the whole power-system of status and mores finds its supposed justification."<sup>22</sup>

Ayres understood in a progressively more comprehensive fashion that the change-agent that could break down institutionalism was technology or tool-behavior. Ayres confirmed: "A tool is an artifact which will perform to much the same effect whoever wields it, one that anybody can employ. A fetish on the other hand, is wholly ineffective in any but consecrated hands. Profane hands may whirl the bullroarer in defiance of taboo and may produce a noise; but that noise will not summon any spirits. Only when the bullroarer is whirled by persons of designated status will mystic forces respond to its supplication."<sup>23</sup> The authority for technological

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<sup>20</sup>C. E. Ayres, The Theory of Economic Progress (1944; rpt. New York: Shocken Books, 1962), p. 157.

<sup>21</sup>Ibid., pp. 165-166.

<sup>22</sup>Ibid., p. 170.

<sup>23</sup>Ayres, Society, p. 135.



behavior is reason, but the authority for ceremonial behavior is force.

Wheelis, noting this distinction, comments: "Clashes between instrumental values seldom invoke violence. Wheelbarrows are alleged better than handbarrows, but never has a debate over this issue led to bloodshed."<sup>24</sup> Why not? It is simply that when a tool proves more effective, it is used, and those who hold out for the old are allowed to go their own way. But as Wheelis points out, if the old way were to be institutionalized, that is forced upon others by an outside authority, then the result could very well bring hostile or violent repercussions. This would be a clash, not over instrumental values, but the authority of institutional values.<sup>25</sup>

The instrumental or technological process is tool-using, experimental, temporal, secular, matter-of-fact, and functional. Tools go beyond just the life span of individuals; they have an endless extensibility. Therefore, they can be combined in an endless number of "inventions" and "possibilities."<sup>26</sup> Ayres did not point out clearly, however, as others have, namely, Leslie A. White and Fred Cottrell, the place of energy and its usage in this progression.<sup>27</sup> Both of these writers made explicit that surplus energy was essential in the multiplication of physical tools. Cottrell defined surplus energy as "the energy available to man in excess of that expended to make

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<sup>24</sup>Allen Wheelis, The Quest for Identity, (New York: W. W. Norton and Company, 1958), p. 182.

<sup>25</sup>Ibid., p. 183.

<sup>26</sup>Ayres, Society, pp. 92-93.

<sup>27</sup>Leslie A. White, The Evolution of Culture (New York: McGraw-Hill Book Co., 1959), pp. 32-57; Fred Cottrell, Energy and Society: The Relation Between Energy and Social Change and Economic Development, (New York: McGraw-Hill Book Co., Inc., 1955), p. 2.

energy available."<sup>28</sup> In a masterful presentation of his thesis, Cottrell shows how energy resources can be measured and what levels are necessary for countries to have a "high energy" level and what constitutes a "low energy" status. White states, "The technological process may be analyzed . . . into two components or aspects. On the one hand, we have energy harnessed and expanded, and on the other, the mechanical means with which this is accomplished."<sup>29</sup> Perhaps Ayres recognized this important factor in a very undeveloped sense,<sup>30</sup> but was not interested in pursuing it. It does, however, in view of the very lucid treatments by Cottrell and White, seem to limit some of Ayres's comprehension of the climate for progressive technological accomplishments.

Ayres made clear that combinations occur because of tool progression and that this progression is geometrical rather than arithmetical. He asserted, "We know with certainty that inventions and discoveries are combinations of tools, instruments, instrumentally manipulated materials, and that the more tools there are, the greater is the potentiality of technical inventions and discovery."<sup>31</sup> Again he stated, ". . . . contrary to popular belief, no knowledge and no art has ever been lost, though any one may have disappeared from some particular locality. The creation of new patterns does not mean that old ones have been lost, but rather that a

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<sup>28</sup> Cottrell, p. 12.

<sup>29</sup> White, Evolution, p. 53.

<sup>30</sup> Ayres, Society, p. 113.

<sup>31</sup> Ibid., pp. 92-93.

new dimension, which extends the possibilities of old ones, has been added."<sup>32</sup>  
 Wheelis added: "The devices which transform man's environment--whether they be material, as the automobile, or intellectual, as the differential calculus--proliferate by geometric progression. The more tools in existence, the more tool-combinations are possible."<sup>33</sup>

Ayres believed that there was no final authority in the technological process except function and efficiency. It is often necessary to admit ignorance because answers are not available. But problem solving, when it does occur, opens up paths for further development and progression. It is not retrogressive. It does not look backwards, although it may repeat experiments from the past if they are thought to warrant further investigation. In other words, this process is flexible and experimental but never static. Unlike the institutional process, which does not admit tentativeness but rather thrives on certainty and dogma, the instrumental or technological process is always seeking new solutions. Ayres noted, "Tool activities postulate a division of labor the sole criterion of which is efficiency, whereas the sole criterion of status is ceremonial."<sup>34</sup> There is a continuity in the technological process, a basic progressive logic.<sup>35</sup> If one tool is adequate, others can result, allowing for other inventions or solutions. Thus, "The flow of values in human experience--of ends-in-view which in turn become means to other ends-in-view--is of course an uninterrupted process."<sup>36</sup>

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<sup>32</sup>Ayres, Theory, p. 211.

<sup>33</sup>Wheelis, p. 79.

<sup>34</sup>Ayres, Society, p. 136.

<sup>35</sup>Ibid., p. 115.

<sup>36</sup>Ibid.

Wheelis shows Ayres's basic reasoning in the progress of the technological process in these statements:

. . . The introduction of keels into a culture that contains sails and rudder is likely to yield sailing ships. The perfection of an internal combustion engine by a culture that contains buggies and kites will certainly result in automobiles and airplanes. A historical chart of such devices, therefore, has the appearance of a logarithmic graph: The entries become most crowded together as one approaches the present. This principle does not, of course, assert that the technological achievements of 1960 will be more numerous or more significant than those of 1950; its applicability is to time spans of greater length. Nor does it assert that the technological process is an imperative. Coercive institutional power may retard it, may, indeed bring it to a complete stop, as evidenced by the continuing existence of stone age culture in some parts of the world. Its validity is as a principle rather than law. It asserts only that the instrumental process possesses an inherent dynamic of accelerating progression.<sup>37</sup>

Junker, elaborating on Ayres's technological principle, says, ". . . tools do not exist alone, they exist within cultures which also contain static institutional relationships involving power, class and status. But technology is the dynamic force making for change while institutional behavior is past and habit oriented. Technology is thus conceived as the master principle for explaining social change--not the only item to be taken into consideration but the key principle."<sup>38</sup>

Junker goes on to show that Ayres thought of resources as standing in a functional relationship with tools. He said, "Resources then are always in the state of becoming because tools are always in the state of development. Resources in this sense are never 'natural' resources, they

<sup>37</sup>Wheelis, p. 79.

<sup>38</sup>Louis J. Junker, "The Social and Economic Thought of Clarence Ayres," (unpubl. Ph.D. diss., University of Wisconsin, 1962), pp. 94-96.

are always defined by tools in conjunction with which it may be used."<sup>39</sup>  
 The combinations which are allowed in the framework of nature were, of course, limited to the extent nature allows, but since this limitation is beyond our conception, resources may be thought to be virtually unlimited.<sup>40</sup>

One of the most insistent emphases in Ayres's theory of the technological or instrumental process is that tool-behavior is universal in nature. He continually made the central point that tool-behavior is for all in its usage. It does not draw invidious distinctions. There is no equivocation. It serves not upon the basis of rank or status but upon the basis of its functional adequacy. Ayres said:

. . . there are two important qualifications to these developments. One is that technology is no respecter of persons. What one can do, others can do. The advantage enjoyed by the pioneers of industrialization is bound to be short-lived as other peoples learn to use machines; and in the case of modern weapons, the greater the scale the larger the number of persons who must be trained not only to the use but also to the fabrication of the instruments of power.<sup>41</sup>

The point Ayres made is that tool usage itself is cumulative on the very basis that the instrumental process does not set up boundaries; it breaks them down. Of course, the use of the tool may then be institutionalized, as in the case of the use of weapons of warfare. But the tool does not create the warfare; it is impervious to the destructive consequences of such institutional practices. Still, as Dewey made clear, the means employed is very much associated with the ends achieved. Dewey stated:

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<sup>39</sup>Ibid., p. 96.

<sup>40</sup>Ayres, Society, p. 113.

<sup>41</sup>Ibid., p. 205.

. . . The end-in-view is that particular activity which operated as coordinating factor of all other subactivities involved. Recognition of the end as coordination or unified organization of activities, and of the end-in-view as the special activity which is the means of effecting this coordination, does away with any appearance of paradox that seems to be attached to the idea of temporal continuum of activities in which each successive state is equally ends and means.<sup>42</sup>

Ayres maintained that the technological process was cooperative in the interest of human life. He stated: "The human way of life is essentially cooperative. Mutual aid is a basic condition of the technological process."<sup>43</sup> He also said, "All people prize tools, and value skill . . . True values are trans-cultural--they are the same for all men--because they are all interrelated. All are manifestations of the same process, the life process of mankind."<sup>44</sup> Technological activity, according to Ayres, was innovative:

Technological activity continually gives rise to innovations resulting from putting together things in new ways by people who have no business doing so. Not only do such things happen in defiance of the established ways of doing things; quite commonly they force the devising of new organizational patterns. New positions must be filled for which there are no traditional, authentic, hereditary occupants. In short, organizational fluidity is the sine qua non of technological progress.<sup>45</sup>

Ayres recognized that tools must be used in a context, otherwise their efficiency would be impaired. But the context becomes more expansive with time. Both conceptual or symbolic tools, therefore, along with physical

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<sup>42</sup>John Dewey, Theory of Valuation (Chicago: University of Chicago Press, 1939), p. 50.

<sup>43</sup>Ayres, Society, p. 169.

<sup>44</sup>Ibid., p. 167.

<sup>45</sup>Ibid., p. 137.

tools progress along a continuum. Ayres once remarked:

. . . Even today we use sticks to dig with on occasions, and (if one had survived) we could take a prehistoric digging stick out of its museum cabinet and dig with it as its prehistoric maker did. By the same token we have better tools today, and by the same criterion human life is better.<sup>46</sup>

Or again Ayres stated:

No one who has ever used a tool--and every human being has done so virtually throughout life--has failed to have the feeling on countless occasions that the materials he is dealing with are deliberately eluding him. This is not a holdover from primitive animism. We are not annoyed with our automobiles and our television sets because we learned about gremlins at our mothers' knees. The real source of our annoyance as we know quite well, is the difficulty of the problem--an unexpected difficulty, perhaps, but one that is none the less genuine and serious for being unexpected and seemingly trivial. Moreover, this is an experience which "brain workers" share with "hand workers." Indeed, I put these phrases in quotation marks by way of recognizing that the apparent distinction is quite arbitrary. All hand workers are of course brain workers, and vice versa, as their common trials themselves suggest. Everyone who has ever tried to hammer out a paragraph knows that nothing is more exasperating than the inability to think of the right word to fit a given context--the feeling that such a word exists, that it is in fact so common as to be virtually in daily use, but that at the moment when nothing else will do, it is maliciously eluding its would-be user.<sup>47</sup>

Ayres was convinced, then, that finally the technological process was progressive. He saw this process in broad perspectives. He did not believe in a "great man" theory of human invention. To be sure, there were geniuses, but they along with all others must build on the "foundation

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<sup>46</sup>Ibid., p. 85.

<sup>47</sup>Ibid., p. 145.

blocks" of cultural experience. Ayres affirmed:

True values are trans-cultural--they are the same for all men--because they are all interrelated. All are manifestations of the same process, the life process of mankind. All knowledge is related to and conditioned by all other knowledge, and all skills are mutually contributory. Good health, freedom from disease and famine, is contributory to the acquisition of skill and knowledge; and the growth of knowledge and development of skill are contributory to the acquisition of skill and knowledge; and the growth of knowledge and development of skill are contributory to good health.<sup>48</sup>

As Wheelis understood, the instrumental process takes social unity for granted whereas the institutional process seeks to make it a dogma. Wheelis says, "Continuously and tirelessly institutions assert the existence of a social entity alone has meaning, and that an individual life acquires significance only by virtue of the individual's finding his place and identity in this larger whole."<sup>49</sup> On the other hand, Wheelis comments on the instrumental process in this fashion:

Divested of all institutional patterns, the life of man would portray the organic unity of the instrumental process, the continuity of arts and of technology. This process is one of increasing knowledge and control. It has no terminus but it has direction; and this direction is away from ignorance, superstition, cruelty, and helplessness. Individual life has value and meaning by virtue of its participation in this process. The fact of death, in this view, is reconcilable with the activities of life, for a social process of which the individual was a part, to which he has contributed, and which he can identify, survives his individual extinction. Indeed, without individual mortality the instrumental process could not exist. For if no one died, then no one could be born; and growth and development would pass from the experience of mankind. The progress of man is thus contingent upon the succession of generations.<sup>50</sup>

<sup>48</sup> Ibid., p. 167.

<sup>49</sup> Wheelis, p. 191.

<sup>50</sup> Ibid., p. 193.



Ayres believed that there were many tools that man could use to overcome the institutional resistance. First, there were the physical tools themselves, the precision tools of industry. But Ayres in his later writings omitted an earlier phrase that he had used extensively, namely, "keeping the machines going." He had come to see the need as well for social tools, political tools, economic tools, and many other types of "control tools." All of these tools must then fit into a proper context. As for economics, Ayres, for example, named four distinct principles: First, it is indivisible and irresistible; second, it spreads in inverse proportion to institutional resistance; third, capital is necessary to insure the push toward tool-development; and four, education is a must.<sup>51</sup>

The superiority of current instrumental tools can only be seen by looking backward to view the ineffectiveness of past cultures. But the technological process is always forward-looking while "ceremonial behavior" remains in its "status quo stance." Ayres stated:

Because tradition and tradition-grounded values play a large part in the lives of all individuals and of all communities, it does not follow that all values are tradition-grounded or that all communities and all human beings are equally tradition-bound. On the contrary, rigorous analysis of ceremonial values themselves reveals the coexistence at all times of another and different system of technologically determined values; and the experience of the Western peoples during the past few centuries (as well as that of other peoples in other times) reveals quite unmistakably the progressive displacement of superstition by knowledge and of prejudice by reason. This trend is the hope of all mankind.<sup>52</sup>

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<sup>51</sup>Ayres, Theory, pp. xvii-xxv.

<sup>52</sup>Ayres, Society, p. 138.

### Summary

The first attempt by Ayres to distinguish the "technological aspect" of human life from the "institutional aspect" was to examine the place of science in the technological process. Science was as "instrumental" to the process as one side of a coin is to the other side. Yet science was not the summation of the process. Science as a matter of fact could, under certain circumstances, become the opposite of the technological process when it became institutionalized. However, Ayres saw over a longer period of time that science was more process-oriented, and he was pleased with this modern stance. Science, then, was one side of the technological process, the thinking side, just as technology was the doing side.

For Ayres, the basic thrust of the "institutional process" was negative to human improvement, albeit a very recognizable part of man's make-up. Institutional values were not based upon experimentation or functional efficiency but upon ceremony and authority. Man falsely believes in one aspect of his life-activity that security comes through such "truths." But the basic security of mankind, his well-being, lies elsewhere, according to Ayres. The tool-process solves problems by the use of efficient and functional tools, conceptual and physical. It is judged by performance and not by ritual. Therefore, when superior performance is demonstrated, the institutional process gives way. But institutions can resist in a most tenacious sense, because they represent the other side of man's nature. Sometimes they resist by checking instrumental changes. Sometimes there is deception so that the institutional process seems quasi-technological.

But the long history of mankind demonstrates clearly that the institutional process can never triumph over the instrumental process. Ayres stated:

Like the first stone hand-ax, the first fire brand and articulate speech itself, computerized automation as a manifestation of the technological process. Human life and well-being depends upon the furtherance of that process now no less than it did a thousand years ago when (as we have lately discovered) the foundations of the industrial economy was being laid, or a million years ago when mankind was first embarking upon its technological adventure. The values we seek are those of human life and well-being. The process by which we seek them is an experimental process, as it has always been.<sup>53</sup>

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<sup>53</sup>Ayres, Messiah, p. xii.

## CHAPTER FOUR. THE UTOPIANISM OF AYRES'S SOCIAL THOUGHT:

## VALUE AND PROGRESS

The most controversial aspect of Clarence E. Ayres's social thought is his contention that "tool behavior" is the locus of all human values and that values are measurable through their extension in the life-process of mankind. Ayres did not hesitate to pronounce scientists and social scientists as "moral agnostics," due to their evasion of critical judgments pertaining to the most "efficient" and most "effective" values. Their consensus that all cultures have a right to value whatever they choose to value without outside interference was a capitulation that Ayres believed to be intolerable. If values have been proven to be "effective," then by all means they should be implemented. The whole existence of the human race is dependent upon this act of judgment. Ayres stated that the other conundrum was only for the "agnostic." "Economic thinking has always embodied some conception of progress and must always do so; for the concept of value is the chief concern of economic thinking, and progress is indissociable from value. Agnosticism with regard to value implies agnosticism with regard to progress."<sup>1</sup>

Ayres believed strongly that "technology" was another term for reason, and that reason affirmed values, and that values meant progress. In his introduction to Toward a Reasonable Society, Ayres stated these

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<sup>1</sup>C. E. Ayres, The Theory of Economic Progress (1944; rpt. New York: Schocken Books, 1962), p. 231.

conclusions definitively in various key pronouncements:

In a sense I am writing this book for my own satisfaction. But the concern which has prompted it is shared, in one way or another, by all thoughtful people. Is industrial society at a dead end, or rushing down a steep place into oblivion, as so many people seem to fear? Committed as we are to a life of reason, are we therefore, as both scientists and theologians seem to think, spiritually crippled? Is it true that the modern mind, nourished on science, is therefore spiritually sterile? Are all our efforts to improve our lot short-circuited by the impossibility of knowing in what direction improvement lies? My answer to these questions is No, and I am writing this book to try to justify that answer.<sup>2</sup>

Again he said:

Is it not possible that values derive their meaning and their sanction not only from tribal deities, and not merely from parochial beliefs, but--at least in considerable part--from the human adventure itself, from the quest for knowledge and ever more knowledge and from the never-ending struggle to harness the forces of nature to human use? Are there not in all societies two sets of values, sacred and profane, so to speak; and is it not the former which differ so widely from people to people whereas the latter are the same for all?<sup>3</sup>

He stated further:

What is essential is the continuity of the process by which tools and know-how have developed through the ages. All peoples have participated in this process. For various reasons some have been more "creative" than others. But all have been possessed of some modicum of the knowledge that is inseparable from the use of tools.<sup>4</sup>

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<sup>2</sup>C. E. Ayres, Toward a Reasonable Society, (Austin, Texas: University of Texas Press, 1961), p. 5.

<sup>3</sup>Ibid., p. 6.

<sup>4</sup>Ibid., p. 7.

Beyond that, he stated:

In short, we have here a process in which all peoples have participated, which has the same meaning for all, and which therefore constitutes a standard of valuation for all. Everyone knows what better and worse mean with reference to tools, and all peoples judge such "betterness" and "worseness" by the same standard. These values are the same for all.<sup>5</sup>

Finally, he reasoned:

We know that supposedly absolute values not only do not transcend human experience; they do not even transcend the beliefs of the people who imagine them. The real issue is whether that is all--whether there is any standard of value which has the same meaning for all peoples. That is the question to which our present knowledge of the unbroken continuity of what we now call science and technology throughout the life process of mankind now gives an affirmative answer.<sup>6</sup>

Ayres was then led to the belief that "technology" offered the locus of supreme value to mankind, never eternal but far more progressive than customs and preferences or "ceremonialism." The "tool process" was never-ending and "useful to all." It was true in the sense that the "ceremonial-process" was not. Thus, he deplored the emphasis of anthropology and social science upon "Cultural Relativism." He called this in essence an evasion. He could not believe that neutrality was the only approach to deal with competing value systems. Indeed, values were useful to all, because the "tool" was no respecter of persons.<sup>7</sup>

Ayres admitted quite readily to the plurality of values. He made it quite clear that man is quite obviously susceptible to "ceremonial" mores as well as "technological" values. But did this mean that there is no

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<sup>5</sup>Ibid., p. 8.

<sup>6</sup>Ibid., p. 9.

<sup>7</sup>Ibid., p. 205.

difference between the two? Were these two "worlds of discourse" to be forever separated so that "technology" competed in the physical arrangements of man's environment and "mores" in his value judgments? That is, is there basically no difference between a tribal medicine man and a medical doctor specializing in internal medicine? While the doctor specializing in internal medicine may not have all the answers, he is certainly equipped with many answers which pertain to life and death. These answers work and they work on any human person, not just a particular person in a particular culture. Thus Ayres believed that there was a utility to scientific values. So technology is not man's best hope; it is his only genuine hope.

Ayres was both a critic of absolute moral theories and a critic of absolute neutrality concerning "technological values." He was in truth an "ethical cognitivist" as one of his former students clearly maintained:

Ayres is a persistent critic of the "pestilence of moral agnosticism" by which he means radically relativistic theories which deny the possibility of attaining an objective knowledge of values. He is equally critical of absolutist moral theories rooted in a transcendental or supernatural matrix for, like other pragmatists, he objects to "dualism" in all its forms . . . . He traces its historical development to the philosophy of David Hume and hence to its contemporary expression by Alfred J. Ayer, whose Language, Truth and Logic contains a classic separation of facts from values in its distinction between synthetic statements (empirically verifiable) and emotive statements (evaluative) . . . . Ayres is an ethical cognitivist because he believes moral choices are essentially objective.<sup>8</sup>

For Ayres then the idea of progress is not in disrepute; rather it is the terminology that suffers a lack of credibility. He was conscious that every effort must be made to show that progress in its metaphysical sense is

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<sup>8</sup>Rick Tilman, "Value Theory, Planning, and Reform: Ayres as Incrementalist and Utopian," Journal of Economic Issues, VIII, (December, 1974), pp. 689-690.

untenable, but still progress is not entirely relativistic either. It is a paradox that "it is the progress of science which has rendered the idea of progress itself supposedly untenable."<sup>9</sup> What Ayres struggled to maintain was an "absoluteness" in values which were less than metaphysical--progress meant simply that the human species benefited unequivocally. It might, he suggested, be very close to the meaning he desired to use the term "change," but he rejected the substitution just the same, for it diminished the meaning that he sought. He stated further:

When a scientist speaks of the progress of science other scientists do not leap up to reproach him having uttered nonsense, for the phrase "the progress of science" is not nonsense. Neither does it depend for its meaning on any preconceived idea of what "the total realization of all scientific knowledge" might be. The meaning to which such a phrase refers is not that of a quantity of knowledge--not a finite quantity any more than infinity. It is a process which is now going on and which may quite reasonably be conceived as continuing.<sup>10</sup>

The focus that Ayres used to defend his thesis of value--progress due to "tool progression"--was one of separating values from both "belief systems" and "emotional elements." He believed, nevertheless, that both of these factors were a basic part of man's makeup. His thesis was that both were subservient to the "real thing." Values that were proven meant that people could believe in them and get excited over them, but the "realness" was in neither belief nor emotion but rather in tool demonstration and the appropriate application for human welfare. In this regard, he asked: "What hope is there for a community whose intellectual leaders not only cannot demonstrate the superiority of their way of life over that of any other people but have convinced themselves that no such demonstration

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<sup>9</sup>Ayres, Theory, p. 240.

<sup>10</sup>Ibid.



is intellectually possible?"<sup>11</sup> On the other hand, Ayres was very sensitive to the prevailing psychological theories which lay stress upon the conditioning due to emotional elements in human behavior:

It is very much more apparent today than it has ever been before that irrational impulses and emotional seizures play a very considerable part in human behavior: that the emotional experiences of early childhood color the whole of subsequent experience; that the process by which animal impulses and emotions are curbed, channeled, and "sublimated" by social conventions is extremely subtle and pervasive one; and consequently that even our most rational behavior is always subject to the suspicion of being a "rationalization" of hidden, sublimated, and symbolized emotions. The psychopathologists do not assert that man is the helpless victim of his emotions. But their studies do complement those of social anthropology in underscoring the significance of the process by which man's emotional nature undergoes social conditioning.<sup>12</sup>

Still, Ayres insisted that while emotional behavior can be deceptive and nullify the recognition of values that unite the human species; it is also evidenced in activities that provide a sense of "causal interrelatedness that runs through all human activities."<sup>13</sup> Thus, human emotions are both "irrational" and "rational," both "ceremonial" and "technological and human." As Ayres stated:

We know as well as we know anything that human emotionality is antecedent to all ceremonialism. It originates in the organism. The system of culture patterns only gives form and direction to our vital forces. To be sure, such shaping of emotional fixation and expression is tremendously important: but it is never final.<sup>14</sup>

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<sup>11</sup>Ayres, Society, p. 49.

<sup>12</sup>Ibid., p. 83.

<sup>13</sup>Ibid., p. 155.

<sup>14</sup>Ibid., p. 159.

Ayres recognized full well the cries of alarmists about the state of human affairs, a state bent upon destruction rather than human welfare--such problems as litter, pollution, weapons for warfare, multiplication of automobiles traffic, and industrial waste. He shrugged these laments off as superficial and ill-advised. The very nature of such problems allowed for a climate to exist in which better solutions would be found. He summarized: "Unbiased observation should be sufficient to convince anyone that the force of moral conviction is just as strong today as it has ever been, notwithstanding the increasing secularism of Western civilization."<sup>15</sup> He concluded: "We do incontestably know more today about the uniformities of nature and the interdependence of all human activities than men have ever known before, and we are therefore no less incontestably in a better position to make sound judgments of value than men have ever been before."<sup>16</sup>

The major thrust of Ayres's argument about "technological behavior" then is that it is unified because it has value. All values in the plural sense must of necessity point toward progress of human well-being if they are "real" values. Ceremonial values are "real" in another sense; they bind people through emotive processes and belief-systems. But they are only ultimately legitimate in their usage when they represent the ongoing enhancement of the species:

Falsehoods flourish and are infinitely varied; but all peoples mean the same thing by "true" and "false" and all attach the same values to both. Among some peoples (ourselves included)

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<sup>15</sup>Ibid., p. 160.

<sup>16</sup>Ibid., p. 162.

the art of deception is widely practised, and the skilled deceiver is greatly admired. But the very meaning of deception implies that the truth is known at least to the deceiver, and that the victim of the deception is victimized precisely because truth is great and will prevail. It prevails because, like the uniformities of nature of which it is a projection in human experience, it is the same for all men.<sup>17</sup>

Again Ayres is cast in the light of a contextualist, it would seem.

He desired to show that "tool operationalism" meant the direction of progress-- the tool gets the job done for all alike. But having a machine that works for all does not in itself mean that you will have the "symbolic values" to guarantee continuation of the incentive for progress. "Tools" can be used in a destructive manner as well as useful manner. Thus, Ayres believed that "tool-efficiency" was dependent upon a "value-climate." He recognized the controversial nature of his arguments when he admitted the "mystery" of this juxtaposition. Using Asian, Oceanic, and African peoples as an example, Ayres maintained that "the freedom the Western peoples have achieved is a function of the abundance they enjoy. . . ."<sup>18</sup> Ayres recognized that explanations as to why this occurred were difficult to come by, but it was clear, nevertheless, "that the fruits of skill and knowledge are good, notwithstanding the dangers they entail, and that the values they signalize and foster are all interrelated, since they are all functions of scientific knowledge and technological competency."<sup>19</sup>

Ayres delineated the values he believed to derive from the extension

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<sup>17</sup>Ibid., p. 167.

<sup>18</sup>Ibid., p. 169.

<sup>19</sup>Ibid.

of technology as follows: freedom, equality, security, abundance and other "moral" values.<sup>20</sup> But Ayres believed that it was impossible to determine which came first, the technological process or the value recognition--both were joined together in the continuum of the life process. For example, in regard to freedom, Ayres stated, "Certainly the most important freedom is freedom of the mind; and freedom of mind is both a prior condition to invention and discovery and a further consequence of all technological development."<sup>21</sup> In a later assessment, however, he maintained that freedom is resultant from the technological process, since the machine does away with ignorance and poverty.<sup>22</sup> Still, he admitted to the "symbolic nature" of such a statement, since freedom is not in any literal sense the result of machine invention but rather the result of the process whereby man uses its production accordingly. This is the freeing aspect.<sup>23</sup>

Freedom is neither in the possession of the individual nor in the control of the community, according to Ayres, but both become a part of the paradox when freedom is clearly comprehended. There is no individual in the "totality of the life process;" only corporate existence with individuals as a part. For Ayres, freedom mandated restraint. Yet dissent was necessary in the total scheme of things or else we would be unable to know who was right. Ayres seemed to imply that the greatest complexity demanded the greatest variability in order to reach a suitable consensus. Rightly

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<sup>20</sup>Ibid., pp. 171-294.

<sup>21</sup>Ibid., p. 181.

<sup>22</sup>Ibid., p. 182.

<sup>23</sup>Ibid.

conceived, freedom is one of the crowning values, because it sets the limits whereby the "progress of the tool process" is guaranteed, and it allows the individual as a person the access to facts which liberate him from the arbitrary controls of the would-be controller. Freedom means that persons are guaranteed the right of inquiry, of combating ignorance, of experimenting, and developing. "Freedom does not mean absence of government. To conceive it so is to lapse into primitive negativism."<sup>24</sup> Ayres seems to have meant by this statement that the right of individuals to do their "own thing" is not freedom at all; rather, implied in freedom is stability for all, which can only come through complex social organization, that is, "the freedom of government, and indeed of all the instrumentalities of organization, from the tyranny of status; operational freedom; constructive freedom; the freedom to inquire; and the freedom to create."<sup>25</sup>

As for equality, Ayres believed the industrial Western civilization has helped us to understand what egalitarianism means. He does not mean that individual differences such as those in intelligence, physical attributes, or social characteristics are equated. He emphasized the part of urbanization in bringing about a bourgeois society and the very term "middle" means the accomplishment of a great amount of equality or flexibility--when you have but two classes there tends to be domination by the upper-class. The reality of mobility, too, allows for a breakdown of class determinism. Unlike

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<sup>24</sup>Ibid., p. 185.

<sup>25</sup>Ibid., p. 186.

caste, class is not binding when there is opportunity for mobility, that is, a mixed and open class system. Ownership by "management" may indeed seem to bode but ill for egalitarian concepts, but for Ayres such was not the case. He maintained that participation in multiple areas of the industrial system provided safeguards for abuses that might otherwise occur.<sup>26</sup> Ayres admitted that injustices did occur and inequality was a constant threat to an industrial way of life. However, despite fumbling and vested interests, equality was the thrust of scientific enlightenment and technological processes.<sup>27</sup> Nor does science lend support to man's biological "otherness" as a basic reason for inequality. There are differences, of course, but Ayres maintained that they occur in all segments of a society and not uniformly related to any one race or segment, and social scientists have learned to pinpoint them and to deal with them.<sup>28</sup> The social consequences have been recognized as the reason for inequality by social scientists, and social consequences can be overcome.

Ayres often worked himself into a quandary in defense of his major thesis concerning progress in the "tool process." He argued quite paradoxically that even dictatorships that have sought to possess the "technological process" will in the end find that equality will result. The very process will of its own weight break their hold.<sup>29</sup> Ayres did not pursue this argument, though, since it is obvious that present circumstances do not

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<sup>26</sup>Ibid., pp. 187-195.

<sup>27</sup>Ibid., p. 204.

<sup>28</sup>Ibid.

<sup>29</sup>Ibid., p. 205.

warrant early speculation to this effect. For example, why do not fully industrialized countries such as the USSR move toward full freedom for all? Ayres, no doubt, would have replied, "give them time." At any rate, Ayres believed that equality occurred and occurred most conspicuously when the "tool" operated in grand ascendancy and when persons were free to let it be their master. Then, it indeed worked to the benefit of all.<sup>30</sup>

Security, Ayres considered to be one of the fundamental values, and he was certain that greater security had been won for Western civilization because of the "tool process." Myths did not buy us a greater life span or more advanced health outlook. Scientific knowledge and superstition are not only mutually exclusive, but other quasi-respectable philosophies such as existentialism are just as pernicious, because in the end they only seek to provide a hope built upon wishes, not upon concrete possibilities. So Ayres remarked of the "tool process" vis a vis "ceremonial claims," that "judged by the standard of actual security, mankind has done well, and never better than in modern industrial society."<sup>31</sup> When people really know what science can produce, Ayres was convinced, they choose technological solutions; the problem is that so many areas in life are as yet without answers or the problems have not been properly defined. In this situation, people revert to their "ceremonial-behavior patterns." Ayres admitted that while tool-behavior provided answers, there was always the perverted usage of the "tool." This occurred when it was made a "fetish" and used for the

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<sup>30</sup>Ibid., p. 206.

<sup>31</sup>Ibid., p. 210.

advantage of persons or groups. But he believed that in fact technological values made people aware of the falacies of myths and status promoters. He stated in utter confidence: "Life itself is becoming less ceremonial, less a matter of authority and obedience, more responsive to demonstrable facts-- in a word--more rational. I am well aware that this judgment is contrary to prevailing opinion."<sup>32</sup>

The "snap" in Ayres's arguments centers around his viewpoint that change occurred mainly in response to the creation of tools, superior tools, and that "ceremonies" and "myths" keep men chained to the status quo. So indeed our only hope as a human race is to keep on changing to cope with the new threats to our existence: "The process of efficient organization for mutual advantage, by which dawn men first learned to secure themselves against the rigors of the winter season, is still going on, and may still secure us against the hazard of mutual destruction."<sup>33</sup> It appears that this is one of the strongest parts of Ayres's social theory. He showed consistently that changes occurred in societies and cultures not by "belief-systems" or by "myths," but by means of "tool-intervention." This being so, Ayres believed that it was possible to distinguish between what was useful and what was damaging to the human species. Technology provided a "recognizable" standard of what enhanced life and assured human welfare.

Consistent with his emphasis upon technology as the creator of the "good life," Ayres believed in the value of abundance. Claiming economics

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<sup>32</sup>Ibid., p. 218.

<sup>33</sup>Ibid., p. 227.



as his major field of endeavor, this was an emphasis that he constantly pursued. It is impossible for the present writer to evaluate his contribution in the economic field, much less to assess his acceptance by economists. There is no doubt that the school of "Institutionalism" strongly supported the contribution of Ayres, and he appears to have a strong following in the United States, but the "institutionalist approach" is also strongly challenged and maligned. Warren J. Samuels mentions some salient points of "Institutionalism Economics" in an article written in honor of Ayres.<sup>34</sup> These were: The growth of the market and economic growth and development are dependent upon the extent of institutional organization and resistance. The social and cultural aspects of people is basic to an understanding of their economic systems, for economic determination is not merely a legal function or market framework but the whole organizational structure of a society. It is, according to "Institutionalists," a holistic operation which includes all aspects of a culture.

There can be no doubt as to Ayres's position on abundance, for he believed it central to egalitarian ways of a society, and he thought this to be the "ideal" path. For Ayres, then, the key to understanding the better way of life was not merely surpluses but also the availability of the surpluses for the people. The "old order" or "conservative economics" magnified conservation, "market determination," "hoarding," "free enterprise," with some self-interest in mind. The justification of conserving economic goods was that the market must be protected at all costs. The "market"

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<sup>34</sup>Warren J. Samuels, "Introduction: Market, Institutions, and Technology," Journal of Economic Issues, VIII (December, 1974), pp. 663-669.

and "free enterprise" became gods to be maintained. There was an emphasis upon "ceremonial waste" to keep matters in hand and in control, but abundance for all was thought to be the arch enemy of the market. Ayres believed that abundance should be for all, not "ceremony" for the privileged. He said, "We do not abhor the waste of our social superiors but tolerate it because of their superiority. In literal truth we regard abundance as a heavenly illusion."<sup>35</sup> Ayres believed that while it was the common assumption that there was no way that good things can be available to all, just the reverse was true--namely, good things must be available for all to assure greater freedom for all. For Ayres, technology reached beyond the status quo of fear or of privilege and created abundance that could be shared for a common good. But Ayres did not believe technology should be espoused either because it could provide the food we eat, or that food should be consumed because it is necessary to eat to stay alive; rather, both should be seen as a context. He repeated:

Abundance is not good in any secondary or derivative sense, "merely" because it derives from the technological process. Nor is the technological process inherently disagreeable in itself but good in consequence of producing abundance. Both are good because they are inseparable--from each other, and from all other real goods. In a sense abundance is the aggregate of all goods and derives its goodness from all that is good. But in an equally valid sense all other goods derive their meaning from that of abundance, since a good is anything we would be better off for having more of. Thus abundance carries us back to the interrelatedness of all human experience, from which the meaning "good" derives, and it is that inter-relatedness which is likewise manifest in the technological process from which abundance flows.<sup>36</sup>

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<sup>35</sup>Ayres, Society, p. 235.

<sup>36</sup>Ibid., p. 246.

Ayres defended the excellence of Western culture, despite critics to the contrary. He was not concerned with raising a generation of "purists." No generation was ever so "pure" as to reach a "high culture" that was beyond challenge. The very diversity present in cultures seemed, rather than precluding, to make possible the outreach for excellence. Striving for new excellence as well as sharing new forms was basic to the technological process. It does not damn a culture to have some forms of art, music, drama, and writing available for all. Popular culture and kitsch, therefore, did not upset Ayres. He asked in this sense if excellence was really related only to rarity or was it indeed more related to expansiveness? As with abundance, Ayres perceived expansiveness to lead in part to creative endeavor while still providing some "luxuries" or "good things" to the masses. He defended "accessibility" as the mark of true technological value; at least the opportunity for excellence is there for all.<sup>37</sup> Nor is conformity always a burden. He said, "Let us concede at once that the mass-communication industries do assail us with egregious mispronunciations, outrageous solecisms, and assorted illiteracies and vulgarities. Nevertheless, the decisive question is, what is the trend?"<sup>38</sup> For Ayres, then, the major concern was the trend and for him there were no signs of incompetence at the top.<sup>39</sup>

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<sup>37</sup>Ibid., p. 254.

<sup>38</sup>Ibid., p. 255.

<sup>39</sup>Ibid., p. 256.

Thus Ayres defended not only differing standards of art and craftsmanship but more basically the expansion of "truth." So he maintained:

There is no basis whatever for the indictment of industrial society on a charge of lack of wisdom. Such a charge can of course be brought against particular individuals today as in all previous ages. But the vast increase in knowledge which industrial society has achieved has not been won at the expense of wisdom, any more than has abundance been achieved at the expense of any other sort of excellence, including individual skill and pride of craft.<sup>40</sup>

Finally, Ayres dealt with an overall summation of what might be termed peak values in the "private" or "personal" areas. He believed that in these areas too, industrial society brought help and not hindrance. But Ayres gave only a scant five pages to such an effort, an effort that seemed almost aborted from the beginning. What Ayres seemed to imply was that certain "ceremonial" values may have a specific relationship to known "technological" values, and this was not by accident. The very nature of "technological inquiry" probably, or so it would seem, meant that individual exclusivism had to yield to social demands. Efficiency in the whole human community demanded more than mere self-interest. And efficiency, while compromised, was never forsaken even by those who would go their own way in their many pursuits for happiness.

Ayres maintained that elaborate ceremonies about cleanliness have been with mankind from the earliest times, and medical and hygienic findings have confirmed their appropriateness. Lying is ceremonially deplored through the ages, and in modern society you cannot build a worthwhile organizational pattern with lying as its cornerstone. Ayres

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<sup>40</sup>Ibid., p. 260.

said: "In short, the simple personal morality of truth-telling is a projection of the technical necessities of organized societies, and hence no clear line can be drawn between the values of individual character and those of society at large."<sup>41</sup> As to sexual continence, here too Ayres believed there was a need for moderation based upon the need for solidarity of human organization. Efficiency, Ayres believed, depended upon a social consensus, but he was also shrewd enough to see that many of these standards can only come through "social need" and not through imputation of individual moral guilt. He stated:

It may be that, if a commission of efficiency experts were given the task of devising a system of sex behavior that would comport with the organizational necessities of industrial society, what they would come up with would differ from the prevailing "system" in various respects. But it would almost certainly not be entirely different. Almost certainly its guiding principle would be a regularization of sexual relations.<sup>42</sup>

As to honesty, Ayres did not believe it was always the best policy when considered individually, but he knew it was the best policy when considered socially, and he expressed his viewpoint in this manner: "Honesty is the best policy for individuals--not intermittent, but continuous, reliable honesty--because it is the best policy for societies."<sup>43</sup>

Ayres summarized his social-individual value beliefs as follows:

The same things are true of the intimate, personal values of "private" life that are true of the ideals to which societies dedicate themselves. All values are fraught with emotion, and all values have their traditional, tribal aspects; and since the "personal" virtues and vices are those which are so identified for us in childhood, that being why we think of

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<sup>41</sup>Ibid., p. 267.

<sup>42</sup>Ibid., p. 269.

<sup>43</sup>Ibid., p. 270.

them as personal, they are the values we identify most insistently with our tribal mores by reason of the emotional conditioning through which tribal mores are transmitted. But it is also true that the effective working relationships which constitute the life process of mankind spell out values which thus derive not from our sentiments but from our necessities, and this likewise is just as true of the values that prevail in intimate personal relationships as those which pertain to whole societies. The truth is that honesty, decency, and veracity are not only the best policy but the only policy in terms of which human beings can work together to live better than the animals.<sup>44</sup>

#### SUMMARY

Ayres believed that the "technological process" produced the locus of all value for mankind because it moved constantly in the direction of improved human welfare. Reason was the best policy not because it was the only plane on which man lived but rather because it proved its merit by efficiency and maintenance. Anthropologists and social scientists in attempting to be value-free are in essence striving for the impossible. How can society live without judgments? The "technological process" or "instrumental process" demands both thinking and doing. Therefore, judgments are vital to the life process. Beyond this, judgments are not of the same order. The "tool process" allows for utility but the "ceremonial process" makes emotion and preference the key responses. The "tool process" does not eliminate "belief" and "emotion," for they become a part of and not separate from the value of finding "better tools." In reality then, the "tool" is supreme because it guarantees man more satisfaction, more security, more abundance, more freedom, more excellence, and more truth. This is not

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<sup>44</sup>Ibid.

to say that the "tool" has brought us to the ultimate in our problem-solving ability, for no "tool" has the keys to all the problems of life. But the "tool" is the best process known to man to answer his specific problems of existence. While it is never complete, final, or the ultimate, it is progressive in its value. The tool process is ongoing then as life is, and its utility is proven over the long span of human history. It is never static, however, for today's answers will never suffice, except in a cumulative sense, to answer tomorrow's problems. But of one fact Ayres was resolutely convinced; the answer of technology was superior to the answer of "emotion," "belief," and "ceremony," and it alone could provide the direction for the preservation of the species. Progress was attainable because the "technological process" was more in evidence in the solving of man's innumerable problems.

CHAPTER FIVE. CONCLUSION AND CRITIQUE: AYRES'S CONTRIBUTION TO THE  
UNDERSTANDING OF SOCIAL BEHAVIOR VS. HIS ABSTRACT UTOPIANISM  
REGARDING THE UNLIMITED PROGRESS OF TECHNOLOGICAL VALUES.

It is well to repeat in the conclusion the thesis of this study dealing with the social thought of Clarence E. Ayres, namely, that although Ayres's theory of progress is damaging to his sociological theory as a whole, his theory of the basic dichotomy of social action, that of technology and ceremonialism, deserves greater credit than it has received and is profoundly significant sociologically.

The major contribution of Ayres to sociological theory, though it has not been suitably recognized, is his inclusion of a concept of culture with concepts of technology, economic "institutionalism," and the nature of the self. All of these themes are intertwined into a comprehensive social theory. Such a social theory is attractive because of its complexity and the range of social facts and considerations it involves. It is common enough to have sociological theories presented about social organization and social institutions, to have anthropological theories presented about culture and symbolic behavior, to have economic theories presented about market reaction and the price system, and to have psychological theories presented about human conditioning and human interaction, but it is rare when a writer possesses the scholarly equipment to combine these areas into a holistic approach. Ayres did not only that, but proceeded to extend these approaches and to take into consideration the areas of philosophy and ethics, especially with his keen insight into John Dewey's pragmatism and



instrumentalism. This contrasts with approaches where various social disciplines are compartmentalized and where other disciplines are considered with suspicion. Such a posture can be the death knell to social science, which by its very nature demands the greatest number of alternative approaches conceivable. For Ayres, it was inconceivable that science or social science could claim to be a "sacred cow." Science meant full inquiry as well as full implementation.

Another contribution of Ayres to social thought was his comprehensive interpretation of Thorstein Veblen's works. He showed with erudite shrewdness that Veblen was one of the greatest theorists of the twentieth century, because he perceived man as partly governed by his "instinct of workmanship," an instinct that made technology central to his behavior. Though Ayres was aware of the deficiency of using such unacceptable terms as "instinct" as a substitute for "cultural self," he nevertheless realized that Veblen, above all others, had found a key to the dichotomy of human behavior. Veblen had seen clearly that man's activity was determined by his culture and technology just as his other side struggled to maintain the status quo through "ceremony" and "pecuniary pleasures," "conspicuous consumption," and "waste." The change agent was technology, and man to improve his life situation was dependent upon his "workmanship," his productive side.

One of the most forceful presentations of Ayres concerns this assumption of technological value. But Ayres's extension of this theory of technological efficiency does not depend upon a "regime of workmanship"

as in the case of Veblen but rather upon the assurance that the "tool process" will continue to gain ascendancy by its own efficiency. The "tool" itself, which includes both physical and symbolic tools, has the inner dynamic to break down institutional opposition and to bring about better human values.

It was in studying John Dewey's "instrumentalism" that Ayres was able to bring his own social thought to fruition. The valuation process was known through experimentation and function. Thus, Ayres believed that Dewey supplied the missing link to Veblen's dichotomy of human behavior. Dewey in his Theory of Valuation<sup>1</sup> had seen clearly that values are of two kinds, those built upon human desires and feelings, and those built upon logical relationships and pragmatic instruments. As Dewey stated:

Such rules are used as criteria or "norms" for judging the value of proposed modes of behavior. The existence of rules for valuation of modes of behavior in different fields as wise or unwise, economical or extravagant, effective or futile, cannot be denied. The problem concerns not their existence as general propositions (since every rule of action is general) but whether they express only custom, convention, tradition, or are capable of stating relations between things as means and other things as consequences, which relations are themselves grounded in empirically ascertained and tested existential relations such are ususally termed those of cause and effect.<sup>2</sup>

Ayres used this touchstone of "instrumental" value developed by Dewey as the framework of his social thought. It was possible to answer human problems, not because "customs" were logical, but because "instrumental tools"

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<sup>1</sup>John Dewey, Theory of Valuation (Chicago: The University of Chicago Press, 1939), pp. 1-66.

<sup>2</sup>Ibid., p. 21.

were. The dichotomy of human nature had a valuating side and man could find direction by using this side of his humanity. It was hope for both survival and human betterment. But Ayres went much further than Veblen and Dewey in showing that culture is the key concept in the "tool process."

In his discussion of culture, Ayres parallels the thought of Leslie White, especially in his emphasis upon the development of the symbolic and cultural nature of man, and he parallels the thought of George Herbert Mead in his emphasis upon the developing social self. But in both cases, he offers new theories. He extends the dominance of White's tool usage to include "normative tools." He extends the "interactionism" of Mead to include cultural forms of behavior along side social forms and social institutions.

Whether Ayres was interested in particular sociological insights developed by particular sociologists is difficult to know. Surely, he must have followed with interest the work of his students, C. Wright Mills, Talcott Parsons, Marion Levy, Walter Goldschmidt, Allen Wheelis, David Hamilton, and Rick Tilman. But because Ayres was notoriously lax in documenting his references, we cannot be sure. He was very independent in his judgments and desirous of showing that social thought should and was bound to reach beyond "Cultural Relativism." The social sciences above all had a responsibility, according to Ayres, to indicate that man was not merely a social animal with no guidance but his customs but rather was a cultural person and possessed a directional purpose. Man was both social and cultural--he was both created as a social being and the creator

of a cultural progression. And in his cultural role, he was both the creator of "ceremonial wastes" and the organizer of progressive "technological values." By use of his "technological tools," Ayres believed that mankind could assure not only survival but also a better quality of life.

Allen Wheelis used Ayres's conceptual tools in his psychoanalytic approach to the problems of human existence. He believed that the main problem with value is the quality of the values, an assumption that Ayres often put forth. Values do not transcend man, but Wheelis believed that neither are they the result of random and casual activity. Thus, choice and judgment is involved in human emotional stability. But, Wheelis suggests, that when we come to the most important decisions of life, "the instrumental process provides no clear-cut answers."<sup>3</sup> He states, however, that there is usually a basis for a partial answer:

A dozen psychoanalytic listening to the same case material are likely to formulate a dozen different estimations of its unconscious meaning, of its prognostic significance, and of specific interpretation which should be made. Yet they may share the same hypotheses and the same empirical approach. There is some common ground, some area of "consensual validation," but it is far less extensive than psychanalytic literature would suggest. Similar instrumental uncertainty exists in all such borderline areas--in marriage and child rearing, government and economics, war and peace. It is at just such junctures, where the known is interlaced with the unknown, that scientific progress takes place and the area of the known is extended. It is extended but slowly in those fields where institutional pressure opposes each scientific advance; it is extended with accelerating velocity in those areas which are free of such opposing pressure. But the awareness of progress provides no present answer, and some problems will not wait. One must choose

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<sup>3</sup>Allen Wheelis, The Quest for Identity (New York: W. W. Norton and Company, Inc., 1958), p. 183.

and act. In such circumstances, decisions are apt to be made by reference to institutional values. One prays, consults dogma, or refers--perhaps unwittingly--to mores. In psychological terms, the ego abandons the conflict and appeals to the superego for a verdict.<sup>4</sup>

Wheelis praises the technological propulsion toward the progressive betterment of mankind but also points out some reservations, quite obviously dealing with Ayres's strongly worded assurances of "technological"

evaluation. Wheelis did believe that much technological progression was hampered by "cultural lag." And he questioned the "functionalist" model in sociology by arguing that it has a tendency to distrust change: "This is the basis which has made equilibrium the central concept of social studies--the optimum state being thought of as equilibrium while disequilibrium is considered as unnatural and temporary deviation."<sup>5</sup>

Wheelis seemingly tempers though the optimism of Ayres's "technological progress," with these conclusions:

The instrumental solution calls for the elimination of all institutional coercions. Indeed, some instrumentalists seem to feel that they only good institutions are, like Indians, dead ones. But it is generally recognized now that when institutions are overthrown by force they are replaced, not by science, but by other institutions which may be more restrictive than those which were destroyed. Few persons, therefore, expect a scientific society to be established by revolution. But science, it is said, is winning the day, and may soon enable us to dispense altogether with myths and superstitions as soon as they are generally recognized as such, but there is no indication that we will ever lose altogether the potentiality for creating superstitions in the guise of self-evident truth.<sup>6</sup>

<sup>4</sup>Ibid., pp. 184-185.

<sup>5</sup>Ibid., pp. 199-200.

<sup>6</sup>Ibid., p. 205.

Ayres was quite perturbed, however, with those who sought to soften the thrust of "technological progression." In his review of Fred Cottrell's book, Energy and Society: The Relation Between Energy, Social Change, and Economic Development, he chided Cottrell for his "fixation on energy and his treatment of energy-conversion as the whole of the tool-using process."<sup>7</sup> He commented further, "By focusing attention upon energy as a figment of nature and energy-conversion as a natural process, Cottrell diverts attention--his own as well as ours--from the process by which knowledge grows and skills develop, and by which accordingly 'energy converters' are brought into existence in any society."<sup>8</sup>

Still, it appears that Ayres's main criticism of Cottrell's approach is that it does not sufficiently allow for "guaranteed" technological progression. Cottrell's book deals with social inhibitors as well as natural energy depletions, and Ayres was convinced that these were secondary to the fact that technology would lead the way to better techniques regardless of social considerations and inhibitors.<sup>9</sup>

One additional comment seems appropriate regarding Ayres's contribution to social theory. It has been the tendency in most of the social sciences of late to view with more respect "decision making" or "judgmental stances." It seem appraent that Ayres's emphasis upon the "moral agnosticism" of the social sciences was ahead of its time. While there are those sociologists

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<sup>7</sup>C. E. Ayres, Review of Fred Cottrell's book, Energy and Society: The Relation Between Energy, Social Change, and Economic Development, The Southwestern Social Science Quarterly, (March, 1956), p. 404.

<sup>8</sup>Ibid.

<sup>9</sup>Ibid.

who argue that no value exists except as a social construct,<sup>10</sup> many see values as human necessities. Paul Strassman believed that great change occurred among social scientists on this issue. He comments: "When economists begin raising questions, anthropologists should take it as a cordial welcome to speak up. Fortunately, it appears that, under the promptings of George Peter Murdock, A. V. Kidder, Clyde Kluckhohn, and others, anthropology began to abandon extreme cultural relativism during the 1940s when Ayres was grousing about it."<sup>11</sup> Certainly, many sociologists have taken "interpretive" positions, including C. Wright Mills, Irving Louis Horowitz, Alvin Gouldner, Norman Birnbaum, Seymour Lipset, Daniel Bell, Robert Nisbet, and Robin M. Williams, Jr., to name a few. Strassmann makes these comments about Ayres's contribution to interpretive social thought:

Perhaps Clarence Ayres was simply a belated nineteenth-century scientific humanist who bravely skirmished against humbug, cruelty, and squalor with original but unqualified statements. Perhaps he was simply a displaced philosopher who somehow had strayed into economics and found himself defining technology so broadly that he really should have called it something else. Perhaps he also did not keep abreast sufficiently with progress among his economic colleagues, who while they had not bathed, were at least filling the tub. On the other hand--or at the same time--he might have been a man far ahead of his, and our generation.<sup>12</sup>

In one sense Ayres's approach to social theory may have seemed too modest and too simple for sociologists to consider. Yet, most social

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<sup>10</sup>Armand Mauss, Social Problems as Social Movements, (New York: J. B. Lippincott Company, 1975), pp. xv-xviii.

<sup>11</sup>W. Paul Strassmann, "Technology: A Culture Trait, A Logical Category, or Virtue Itself?" Journal of Economic Issues, VIII (December, 1974), p. 680.

<sup>12</sup>Ibid., p. 684.

systems are built around themes that are woven fugue-like throughout the entire fabric. Freud, with all of his diversity of themes, talked essentially of aggression and neurotic behavior counterpoised against work and love. The vast field of Group Dynamics, with all of its attempts to define group interaction, generally identifies but two basic types of groups: (1) those which seek mainly social benefits through interpersonal contact; and (2) those which are oriented toward task-solving and problem-solving. While there are many sociological theories about change, including evolutionary theories, neo-evolutionary theories, cyclical theories, technological theories, and others, the two main positions of American sociologists seem to be of the functionalist or the conflict models.

Ayres was consistent in pinpointing the dichotomy within man as essential to understanding change and man's ability to gain understanding as to his best welfare. In doing so, he turned his theme into a multifarious number of complex parts. However, his main contention was clear, namely that one side of man created "ceremonial patterns" as answers to man's basic problems while the other side created "technological and instrumental" solutions. It was the latter activity that had survival value, while the "ceremonial behavior" was counterproductive.

Ayres did not place the stress on the "waste" of human behavior that he did upon the "tool progression" of mankind. But he did at least mention Veblen's theories of "conspicuous waste" and "vicarious leisure." He mentioned such examples as bric-a-brac, laces, flounces, and furbelows; silk hats, walking sticks; luxurious dress and "the Easter Parade."<sup>13</sup>

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<sup>13</sup>Ayres, Society, pp. 201-202.



It is evident that Veblen had presented voluminous documentation of this side of man's activity. Ayres seemed much more intent upon showing the "progressive" side of man's behavior, his "tool usage." The central thesis of Ayres was persistently evident, namely, that human history shows: (1) that change occurs by "technological" means and (2) that man's "technology" provides for progress in his problem-solving abilities and his search for life-sustaining values.

While it is to Ayres's credit that he explained profoundly the dichotomous nature of man, showing that such a concept was basic to an understanding of his social and cultural functions, it is the contention of this writer that his theory of progress is empirically non-demonstrable. It appears to this writer that "acceleration" would be a more acceptable term. Acceleration does not have value-emphasis in the sense of the term progress, yet it is not static either; it has a dynamic emphasis. Goldschmidt cautions against the use of "progress" as a moral judgment, while still allowing "acceleration," in the following remarks:

Progress is a value-laden term; it assumes certain values or goals toward which movement tends. Evolution may be viewed as progressive, however, only if these goals are specifically defined as the greater complexity of technical knowledge, greater capacity to produce, and increased elaboration of the body politic in performing these ends. They do not imply any moral betterment or greater satisfaction or happiness of the population. They do involve greater complexity and a higher degree of specialization in the means of production, but not necessarily any greater increase in individual capacity or knowledge or in personal satisfaction of wants. Fundamentally, it is technology that progresses; it is man's capacity to produce that evolves.<sup>14</sup>

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<sup>14</sup>Walter Roths Goldschmidt, Man's Way: a Preface to the Understanding of Human Society, (New York: The World Publishing Company, 1959), pp. 107-108.

Ayres, however, defended a thesis of progress intractably. He did not accept an intermediate position of "acceleration" or a contextualist position that while some empirical judgment of technological development and efficiency could be made other "technological values" are more difficult to assess. He believed in the known quality of the "tool" and its values. Social and cultural values were combined and not treated in a contextual relationship.

Ayres could state with utter confidence:

Western science and technology are universally judged to be superior to those of all peoples and all earlier cultures, and the Western standard of living is universally acclaimed not only as good but as the best to which mankind has ever attained.<sup>15</sup>

Ayres did not state that "technological values" are often the most successful man has ever known, or "technological values" can be shown to be effective in many areas, or that "technological solutions" reveal an "acceleration" throughout human history. For Ayres, the value of the "technological tool" was known, and it was good. For him, there was a progressive pattern to culture:

Indeed, the restoration of the concept of progress is one of the crying needs of contemporary social science. The truth is our agnosticism has gone too far. In ridding our minds of the naive collective representations of the past, we have gone so far as to deny the intelligibility of any sort of pattern in cultural development. The successive layers of artifacts which are laid bare by digging of archaeologists are not sheer hodge-podge conglomeration. Each successive layer is somehow related to the ones below and the ones above, and the relationship exhibits some sort of continuous process. Whatever the function be called which differentiates one from another, it is a continuous function and still differentiates the second layer below.<sup>16</sup>

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<sup>15</sup>Ayres, Society, p. 51.

<sup>16</sup>C. E. Ayres, The Theory of Economic Progress (1944; rpt. New York: Schocken Books, 1962), p. 123.

This statement taken by itself could simply mean that there is evidence that man has been able to successfully deal with his environment through a series of technological and social adaptations, and that these developments are seen to be continuous. But Ayres stated his viewpoint on this in more absolute terms when he said: "Everyone knows what better and worse [*italics by Ayres*] mean with reference to tools and all people judge such 'betterments' and 'worseness' by the same standard. These values are the same for all."<sup>17</sup> This is the crucial problem for interpreting Ayres's theory of progress. He does not distinguish between proving the efficiency of physical and mechanical tools and proving the efficiency of normative and social values. The evaluation is combined. While there may be general agreement as to efficiency of mechanical tools, there is wide disagreement about normative and social values.

Strassmann recognized this difficulty in evaluating Ayres's theory of progress. He questions whether technology as Ayres used it means any less than reason itself, and how can you prove rationality by any empirical measurement? It is possible to define physical tools and their function, but is it possible to define rationality so that the definition will be acceptable to all? Strassmann implies that while the parts of an engine can be measured precisely, statements about excellence and freedom cannot.<sup>18</sup> The problem with Ayres's interpretation is his mixing of technological functions with moral worth and personal satisfaction. Thus, it would seem Ayres's use of the term "technology" is so all inclusive, so all encompassing, as to be amorphous.

<sup>17</sup>Ayres, Society, p. 8.

<sup>18</sup>Strassmann, pp. 676-677.

Furthermore, is it possible to eliminate all institutional behavior as being "ceremonial" and "wasteful"? There is at least some proof that various cultures meet their social needs by different means; they survive and value many and varied traditions. How then can value judgments be made about their "institutional" patterns? Goldschmidt presents a more contextualist outlook than Ayres. He does not posit "cultural relativism" as the only valid position of the social sciences, nor does he advocate a moral standard, as Ayres does, but rather he supports "alternativism." Goldschmidt makes clear that acceleration in technical know-how has more often than not been recognized to be helpful to man. But he insists on separating value judgments of progress from functional possibilities:

. . . In short, despite those who insist that "what was good enough for father is good enough for me," the chances for technological innovation to prove itself are relatively good, both because its ends are relatively less subject to question and because its effects are more amenable to demonstration. . .<sup>19</sup>

And Goldschmidt believes that "institutional" behavior is also useful to social organization in varying degrees:

. . . institutions of social life are instrumentalities. . . they, too, have ends, and . . . some operate better than others under particular circumstances. They differ from technical aspects of culture in that their instrumental character is not self-evident, in that they lack the built-in basis for self-evaluation. (The distinction is not so sharp as the statement above implies. Men do make rational, and end-oriented choices between alternate institutional patterns.) Yet even if there is no self-conscious evaluation on the part of the culture bearers with respect to the instrumental aspects of their institutions, these end-oriented qualities do render them subject to the selective process.<sup>20</sup>

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<sup>19</sup>Goldschmidt, pp. 113-114.

<sup>20</sup>Ibid., pp. 121-122.

Another problem with Ayres's theory of progress is the predicability of "effective" physical tools. It is not possible to guarantee that a "tool" which solves specific problems originally, such as atomic energy in providing electrical power, may not in the end work to the detriment of mankind. Yet, by using Ayres's criteria, it would be seen as an efficient tool and useful for all. This does not indicate "institutional" misuse either, such as atomic warfare would be, but an unpredictable consequence of an "efficient" and "effective" tool. Conversely, it seems conceivable that "institutional" tools in many cases create more effective social patterns and are not purely "ceremonial." It would appear that the dichotomous nature of man implies that "technological values" and "institutional values" are inexorably intertwined and both serve mankind in different ways. This would not preclude the judgment that "institutional values" are far more likely to become "ceremonial" in nature and therefore "wasteful." But while there is great variety of opinion about human values--sociological, cultural, political, economic, anthropological, historical, ecological, and so on--there is in every instance a great amount of consensus in societies as to functional "institutional" tools. Without alternativism, however, judgment would be unidimensional.

Ayres seemed to realize that it was impossible to make definitive statements concerning moral values, but he insisted that it was possible to show what was basic in understanding moral concepts such as freedom, equality, security, abundance, and excellence. In so doing, he did make value judgments. To consider but one example he used, that of abundance,

he pronounced it good in itself, and then proceeded to show his reasons for supporting such a moral designation. The reasons he gave were that abundance meant industrial growth, which meant greater amount of goods for all, which led to egalitarianism in a society.<sup>21</sup> He believed that these developments were good for all cultures. Such an assumption overlooks the variety of cultural needs, some latent effects of technological acceleration, the irreversibility of technological change, and perhaps some psychological effects which may result due to misunderstandings concerning abundance. Harvard Sociologist Daniel Bell has expressed concern about American society resulting from its being a land of plenty:

American capitalism has lost its traditional legitimacy which was based on a moral system of reward rooted in a Protestant sanctification of work. It has substituted a hedonism which promises a material ease and luxury. . . . the characteristic style of an industrial society is based on the principles of economics and economizing; on efficiency, least cost, maximization, optimization, and functional rationality. Yet it is at this point that it comes into sharpest conflict with culture trends of the day. The one emphasizes functional rationality, the other, apocalyptic moods, and antirational modes of behavior. It is this disjunction which is the historic crisis of Western society. This cultural contradiction in the long run, is the deepest challenge to the society.<sup>22</sup>

But for Ayres abundance was a good in itself. The social context was secondary to the value of abundance for all.

Ayres was utopian in his faith in progress. He was optimistic about the direction of "technological" change. Ayres did not think that "institutional" behavior was a "tool," it was a substitute, and one that

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<sup>21</sup>Ayres, Society, pp. 229-248.

<sup>22</sup>Daniel Bell, "The Cultural Contradiction," New York Times, (August 27, 1970).

thwarted human survival and progress. Conversely, "technological" behavior enhanced the chances of human survival and enhanced the quality of life itself. The life process showed a continuum in which the "technological process" paved the way for better human values.

It is the thesis of this study that Ayres would have presented a more acceptable analytical model had he let the dichotomy of human behavior stand without "dogmatizing" it. The two sides of man would both then be seen as tools vital to the selection of values. The "technological" side of man would still be considered as more capable of demonstrated "efficiency," the "ceremonial" side as more vulnerable to "waste." But both sides would be seen as "tool-producing." Still, the alternativism would remain: neither technological values nor social values would stand alone; they would be judged with specific ends in mind, "technological efficiency" and "social function."

But to challenge Ayres's utopian theories is not to minimize his consistent efforts to show that man was basically a dichotomous person. While man may be more complex than his social theory envisions, these two sides of man are clearly visible. Few sociological theories make use of this dichotomy, however. It would be helpful if they would at least consider it, as they do not where stress is placed mainly upon social organization or upon cultural development. Ayres pointed the way to a contextual approach based upon an understanding of man's life process. Certainly, Ayres could have carried out the presentation of man's "institutional" behavior to much greater lengths, but Veblen had done so. He wanted to

show man's "technological tools" and their value. Ayres's emphasis upon social "control" as the means toward greater human freedom is one that deserves study. Present emphasis is certainly in this direction, although techniques for evaluating political systems is much more complicated than Ayres admitted.

Ayres probably was more eclectic than most social theorists. This may be why it is so challenging to analyze his social thought. It is his overall presentation of the dichotomous nature of man and not his denunciation of "Cultural Relativism" that seems intriguing. While he believed that "progress" was evident from one side of man, his "technological" side, he probably would have been more in line with dominant sociological and anthropological thought had he emphasized the alternativism and pluralism of this contextual human activity. His student, Walter Goldschmidt, probably summarizes this position best:

The institutions of modern America, like those of all peoples everywhere, are a product of the past, having their sources deep in history. They are subject to forces that change them to fit new situations, both internally and externally. But these forces are not merely forces for change. They tend to direct the character of the transformation to set the pattern and the style of the transformed society. Whether or not the transformation is viable depends upon the accurate calculations of those who minister to the changes and upon the flexibility of the society to make adjustments.

Such circumstances and such actions have produced the evolutionary development of the human condition, raising man to ever greater control of his environment, to ever larger aggregates of population, to ever more complex social systems. They have taken place unrecorded and unsung in earlier eras; they continue to take place. For modern society is not the end product of such evolutionary development; it is merely at some stage along man's way.<sup>23</sup>

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<sup>23</sup>Goldschmidt, p. 236.



## BIBLIOGRAPHY

Books

- Aaron, Daniel. "Thorstein Veblen: Moralistic and Rhetorician," Men of Good Hope. New York: Oxford University Press, 1951.
- Ayres, Clarence E. Holier Than Thou. 1929; rpt. Clifton, New Jersey: Augustus M. Kelley Publishers, 1973.
- \_\_\_\_\_. Huxley. New York: W. W. Norton, 1932.
- \_\_\_\_\_. Science: The False Messiah. 1927; rpt. Clifton, New Jersey: Augustus M. Kelley Publishers, 1973.
- \_\_\_\_\_. The Divine Right of Capital. Boston: Houghton Mifflin, 1946.
- \_\_\_\_\_. The Industrial Economy. Boston: Houghton Mifflin, 1952.
- \_\_\_\_\_. The Problem of Economic Order. New York: Farrar and Rinehart, Inc., 1938.
- \_\_\_\_\_. The Theory of Economic Progress. 1944; rpt. New York: Schocken Books, 1962.
- \_\_\_\_\_. Toward a Reasonable Society. Austin, Texas: University of Texas Press, 1961.
- Barnes, H. E. Sociology and Political Theory. New York: A. A. Knopf, 1924.
- Becker, Howard, and Alvin Baskoff. Modern Sociological Theory. New York: Holt, Rinehart, and Winston, 1957.
- Bell, Daniel. The Coming of Post-Industrial Society. New York: Basic Books, 1973.
- Benedict, Ruth. Patterns of Culture. New York: New American Library, 1957.
- Bierstedt, Robert. The Social Order. New York: McGraw Hill Book Company, 1957.
- Broom, Leonard, and Philip Selznick. Sociology. 5th ed. New York: Harper and Row, Publishers, 1973.

- Chapin, F. S. Cultural Change. New York: The Century Company, 1928.
- Childe, V. Gordon. Man Makes Himself. New York: New American Library, 1952.
- Commoner, Barry. The Closing Circle: Nature, Man and Technology. New York: Knopf, 1971.
- Commons, John R. Institutional Economics. New York: The Macmillan Company, 1934.
- \_\_\_\_\_. The Economics of Collective Action. New York: The Macmillan Co., 1950.
- Cooley, Charles Horton. Human Nature and the Social Order. New York: Scribners and Sons, 1902.
- Coser, Lewis. Continuities in the Study of Social Conflict. New York: The Free Press, 1967.
- Cottrell, Fred. Energy and Society: The Relation Between Energy and Social Change, and Economic Development. New York: McGraw Hill Book Co., Inc., 1955.
- Dewey, John. Human Nature and Conduct. New York: Random House Publishers, 1930.
- \_\_\_\_\_. Problems of Men. New York: Philosophical Library, 1946.
- \_\_\_\_\_. Theory of Valuation. Chicago: University of Chicago Press, 1939.
- Dorfman, Joseph. The Economic Mind in American Civilization, 1865-1918. Vol. III. New York: The Viking Press, 1949.
- \_\_\_\_\_. Thorstein Veblen and his America. New York: Augustus M. Kelley, 1961.
- Dressler, David and William W. Willis, Jr. Sociology. 3rd ed. New York: Knopf, 1976.
- Eisenstadt, S. N., ed. Comparative Perspectives in Social Change. Boston: Little Brown, 1968.
- Ellul, Jacques. The Technological Society, trans. John Wilkinson. New York: Knopf, 1964.
- Forbes, R. J. Man the Maker: A History of Technology and Engineering. New York: Henry Schuman, 1957.
- Fromm, Erich. The Revolution of Hope. New York: Harper and Row Colophon Books, 1968.

- Galbraith, John Kenneth. The Affluent Society. New York: Houghton Mifflin Co., 1958.
- Gerth, Hans, and C. Wright Mills. From Max Weber: Essays in Sociology. New York: Oxford, 1958.
- Greenway, John. The Inevitable Americans. New York: Alfred A. Knopf, 1964.
- Goldschmidt, Walter. Man's Way: A Preface to the Understanding of Human Society. New York: Henry Holt and Co., 1959.
- \_\_\_\_\_, ed. Exploring the Ways of Mankind. New York: Holt, Rinehart and Winston, Inc., 1960.
- Gouldner, Alvin. The Coming Crisis of Western Sociology. New York: Basic Books, 1970.
- Gruchy, Allan G. Contemporary Economic Thought: The Contribution of Neo-Institutional Economics. Clifton, New Jersey: Augustus M. Kelley, 1972.
- Hall, Edward T. The Silent Language. New York: Doubleday and Co., 1959.
- Hamilton, David. Newtonian Classicism and Darwinian Institutionalism. Albuquerque: University of New Mexico Press, 1953.
- Hansen, Donald A. An Invitation to Critical Sociology. New York: The Free Press, 1976.
- Herskovits, Melville. Man and His Works: The Science of Cultural Anthropology. New York: Alfred A. Knopf, 1948.
- Horton, Paul B., and Gerald R. Leslie. The Sociology of Social Problems. 5th ed. Englewood Cliffs, New Jersey: Prentice Hall, 1974.
- Kallen, Horace, and Sidney Hook, eds. American Philosophy Today and Tomorrow. 1935; rpt. Freeport, New York: Books for Libraries Press, 1968.
- Keller, Albert Galloway. Societal Evolution. New York: The Macmillan Co., 1915.
- Klapp, Orrin. Collective Search for Identity. New York: Holt, Rinehart, and Winston, Inc., 1969.
- Kluckhohn, Clyde. Mirror For Man. New York: Fawcett Publications, A Premier Book, 1959.
- Kölb, William A., "Sociology and the Christian Doctrine of Man," in Religion and Contemporary Western Culture, ed. Edward Cell. New York: Abingdon Press, 1967.

- Kroeber, A. I. Anthropology: Culture Patterns and Processes. New York: A Harbinger Book, Harcourt, Brace and World, Inc., 1923.
- \_\_\_\_\_. Anthropology. New York: Harcourt, Brace and Co., 1948.
- \_\_\_\_\_. Configurations of Culture Growth. Berkeley: University of California Press, 1944.
- \_\_\_\_\_. The Nature of Culture. Chicago: University of Chicago Press, 1952.
- \_\_\_\_\_ and Clyde Kluckhohn. Culture: A Critical Review of Concepts and Definitions. New York: Vintage Books, 1963.
- Linton, Ralph. The Tree of Culture. New York: Alfred A. Knopf, 1955.
- Lipset, Seymour M. Rebellion in the University. Boston: Little Brown and Company, 1971.
- Lowie, Robert H. Culture and Ethnology. New York: Peter Smith, 1929.
- McLuhan, Marshall. Understanding Media: The Extension of Man. New York: Signet Book, 1964.
- Malinowski, Bronislaw. The Dynamics of Culture Change. New Haven: Yale University Press, 1945.
- Martindale, Don. The Nature and Types of Sociological Theory. Boston: Houghton Mifflin Company, 1960.
- Mauss, Armand L. Social Problems as Social Movements. New York: J. B. Lippincott, 1975.
- Mead, George Herbert. On Social Psychology. Selected Papers with an Introduction by Anselm Strauss. Chicago: The University of Chicago Press, 1956.
- \_\_\_\_\_. Philosophy of the Present. Chicago: University of Chicago Press, 1932.
- Mead, Margaret. Cultural Patterns and Technical Change. New York: Mentor Books, 1955.
- Merton, Robert K. Social Theory and Social Structure. New York: Free Press, 1968.
- Mills, C. Wright, ed. Images of Man. "Thorstein Veblen: Status and Discontent," and "Thorstein Veblen: The Main Drift." New York: George Braziller, Inc., 1960.

- \_\_\_\_\_. The Power Elite. New York: Oxford Univeristy Press, 1956.
- Mithcell, Lesley C., ed. What Veblen Taught. New York: The Viking Press, 1936.
- Moore, Wilbert E. and Robert M. Cook, eds. Readings on Social Change. Englewood Cliffs, New Jersey: Prentice Hall, 1967.
- Murdock, George Peter. Social Structure. New York: The Macmillan Company, 1949.
- Nadel, S. F. The Foundations of Social Anthropology. Glencoe, New York: The Free Press, 1951.
- Nisbet, Robert, ed. Social Change. New York: Harper and Row, 1972.
- Odum, Howard W. Man's Quest for Social Guidance. New York: H. Holt and Co., 1927.
- Ogburn, William Fielding. Social Change with Respect to Culture and Original Nature. New York: The Viking Press, 1950.
- Parsons, Talcott. The Social System. New York: Free Press, 1951.
- \_\_\_\_\_ and Edward Shils. Toward a General Theory of Action. 1951; rpt. New York: Harper Torchbook, 1962.
- Redfield, Robert. The Primitive World and its Transformation. Ithaca, New York: Cornell University Press, 1957.
- Rose, Arnold M. Sociology: The Study of Human Relations. New York: Alfred A. Knopf, 1956.
- Shapiro, Harry L. Aspects of Culture. New Brunswick: Rutgers University Press, 1956.
- \_\_\_\_\_, ed. Man, Culture and Society. New York: Oxford Unviersity Press, 1956.
- Shibutani, Tamotsu. Society and Personality. Englewood Cliffs, New Jersey: Prentice Hall, 1961.
- Simpson, George Gaylord. Life of the Past: An Introduction to Paleontology. New Haven: Yale University Press, 1953.
- Spicer, H., ed. Human Problems in Technological Change. New York: Russell Sage Foundation, 1952.

- Sumner, William Graham. Folkways. 1907; rpt. New York: New American Library, 1960.
- Timasheff, Nicholas. Sociological Theory. Garden City, New York: Doubleday and Co., Inc., 1955.
- Toffler, Alvin. Future Shock. New York: Random House, 1971.
- Toynbee, Arnold J. Change and Habit: The Challenge of our Time. London: Oxford University Press, 1966.
- Veblen, Thorstein. Absentee Ownership and Business Enterprise in Recent Times. New York: B. W. Huebsch, Inc., 1923.
- \_\_\_\_\_. An Inquiry into the Nature of Peace and the Terms of its Perpetuation. New York: The Macmillan Company, 1917.
- \_\_\_\_\_. Essays in our Changing Order. New York: The Viking Press, 1934.
- \_\_\_\_\_. The Engineers and the Price System. New York: The Viking Press, 1921.
- \_\_\_\_\_. The Instinct of Workmanship and the State of the Industrial Arts. New York: B. W. Huebsch, Inc., 1914.
- \_\_\_\_\_. The Place of Science in Modern Civilization. New York: The Viking Press, 1919.
- \_\_\_\_\_. The Theory of Business Enterprise. New York: Charles Scribners Sons, 1904.
- \_\_\_\_\_. The Theory of the Leisure Class: An Economic study of Institutions. 1899; rpt. New York: The Modern Library, 1931.
- \_\_\_\_\_. The Vested Interests and the Common Man. New York: The Viking Press, 1919.
- Wheelis, Allen. The Quest for Identity. New York: W. W. Norton and Company, 1958.
- White, Leslie A. The Evolution of Culture. New York: McGraw-Hill Book Co., 1959.
- \_\_\_\_\_. The Science of Culture. New York: Grove Press, Inc., 1949.
- Whorf, Benjamin Lee. Language, Thought, and Reality. New York: Wiley, 1940.

Williams, Robin M., Jr. American Society: A Sociological Interpretation.  
3rd ed., New York: Knopf, 1970.

Periodicals

- Ayres, C. E. "A Gad Fly," The New Republic, LIX (June 19, 1929), p. 132.
- \_\_\_\_\_. "A People's Houses," The New Republic, XLI (December 10, 1924), pp. 7-8.
- \_\_\_\_\_. "A Preface to Culture," The New Republic, LXI (December 18, 1929), pp. 109-110.
- \_\_\_\_\_. "Can Education Stay Secular," The New Leader, (June 21, 1954), pp. 21-23.
- \_\_\_\_\_. "Confusion Thrice Confounded," International Journal of Ethics, XLV, (1934-1935), pp. 356-358.
- \_\_\_\_\_. "Freudianalysis," The New Republic, XLI, (December 17, 1924), pp. 98-99.
- \_\_\_\_\_. "Gog, Magog and Evolution," The New Republic, LIII (September 7, 1927), p. 76.
- \_\_\_\_\_. "Ideological Responsibility," Journal of Economic Issues, I, (June, 1967)
- \_\_\_\_\_. "Technology and Progress," The Antioch Review, III, (Spring, 1953), p. 6.
- \_\_\_\_\_. "The Case of Conservativism," The New Leader, (January 10, 1955), pp. 18-20.
- \_\_\_\_\_. "The Compleat Conservative," The New Republic, XLII (March 4, 1925), pp. 46-47.
- \_\_\_\_\_. "The Gospel According to Darwin," The New Republic, LIV (March 7, 1928).
- \_\_\_\_\_. "The Industrial Way of Life," The Texas Quarterly, II, (Summer, 1959).
- \_\_\_\_\_. "The Wings of Science," The New Republic, XL, (October 22, 1924), pp. 206-207.

Review by C. E. Ayres of Energy and Society: The Relation between Energy, Social Change, and Economic Development by Fred Cottrell, The Southwestern Social Science Quarterly, (March, 1956), pp. 403-404.

Bell, Daniel. "The Cultural Contradiction," New York Times, (August 27, 1970).

Hamilton, David. "Ceremonial Aspect of Corporate Organization," American Journal of Economics and Sociology, (October, 1956).

Levy, Marion J. and Lloyd A. Fallers. "The Family: Some Comparative Considerations," American Anthropologist, LXI (August, 1959), pp. 647-651.

Samuels, Warren J. "Introduction: Market, Institutions, and Technology," Journal of Economic Issues, VIII (December, 1974), pp. 663-669.

Strassmann, W. Paul. "Technology: A Culture Trait, a Logical Category, or Virtue Itself?" Journal of Economic Issues, VIII (December, 1974), pp. 671-687.

Tilman, Rick. "Value Theory, Planning, and Reform: Ayres as Incrementalist and Utopian," Journal of Economic Issues, VIII (December, 1974), pp. 689-706.

#### Unpublished Material

Gillam, Richard. "The Intellectual Rebel: C. Wright Mills, 1914-1946," Unpubl. M.A. thesis, Columbia University, 1966.

Junker, Louis J. "The Social and Economic Thought of Clarence Ayres," unpubl. Ph.D. diss., University of Wisconsin, 1962.