The Evolution of the Veblenian Dichotomy: 
Veblen, Hamilton, Ayres, and Foster

William T. Waller, Jr.

This article will reexamine the concept of "institution" and discuss its relationship to the concept of technology, in pursuit of a unified revaluation and refinement of the Veblenian dichotomy. The article will first examine the historical development of the dichotomy by economists in the Veblen-Ayres tradition. Second, it will discuss refining the concept of institution's role in the evolution of the meaning of technology within the dichotomy, and some implications will be drawn.

The Veblenian dichotomy is the central analytical tool of institutional economists in the Veblen-Ayres tradition. In his work, Thorstein Veblen expressed the dichotomy in many particular forms. The particular form of interest here, one of the most general, has thus come to be the representative expression: the distinction between what Veblen called "institutions" and "technology." The concept of technology has been a recent center of controversy among institutional economists. Institutionalists are refining the meaning of "technology," as well as reexamining its usefulness as a tool of analysis. The particulars of this debate will be discussed later. The fact that the debate is taking place may be more important than the issues involved, for the reason that the institutionalists' concept of a technological process is an abstraction, a working hypothesis about human behavior. All hypotheses, and all elements of scientific knowledge for that matter, are tentative. The institutionalists' concept of the technological process includes testing hy-

The author is Assistant Professor of Economics, Hobart and William Smith Colleges, Geneva, New York.
hypotheses to see if they have "linkages" with the rest of the hypotheses judged by the community of scholars to be warranted knowledge. Or, more simply, each hypothesis is compared and evaluated as to its consistency with those hypotheses currently judged to be most correct. Since this warranted knowledge is itself only tentative, the process of reevaluating hypotheses must be constant and ongoing. The very meaning of the technological process calls for its own reevaluation.

The reevaluation of hypotheses of human behavior, for example, is one of the main differences between the institutionalists and their orthodox counterparts. The institutionalists view human behavior as a process of cumulative adaption to changing circumstances within the cultural context in which the behavior takes place. This view is acknowledged to be tentative and subject to change in the light of evidence to the contrary. Unlike the institutionalists, the orthodox economists make an a priori assumption about the nature of human behavior, and do not subject it to any testing process. This assumption can be seen in the following statement from a widely used contemporary, intermediate micro-theory text:

The postulate of rationality is the customary point of departure in the theory of the consumer's behavior. The consumer is assumed to choose among the alternatives available to him in such a manner that the satisfaction derived from consuming commodities (in the broadest sense) is as large as possible. This implies that he is aware of the alternatives facing him and is capable of evaluating them. All information pertaining to the satisfaction that the consumer derives form various quantities of commodities is contained in his utility function. It seems clear that in order to continue developing a scientific paradigm, the institutional economists must use their analytical tools to evaluate their own concepts, as well as the usefulness of the conceptual constructs of their orthodox counterparts. The debate referred to above seems to indicate that this is in fact an ongoing reexamination of the concept of the technological process. Notably absent is a similar reevaluation of Veblen's concept of "institutions" or "institutional behavior." Reevaluation of technology without a similar reevaluation of the concept of institutions must be looked upon as truncated analysis. Veblen was analyzing behavior as being made up of technological aspects in association with institutional aspects in a social context. This implies that the concept of "technology" only has meaning when used in conjunction with the concept of "institution." To reevaluate one without reevaluating the other may lead to a distorted view of the institutionalists' contribution.

In an effort to rectify what I see as a serious omission from the debate,
this article will reexamine the concept of “institution” and its relationship to the outcomes of the current discussion of technology, in the hope that this will lead to a clarification and refinement of the dichotomy.

**Early Development**

We begin with an examination of the evolutionary development of the concept of “institution.” The logical place to start is with Veblen.

**Veblen**

Veblen extended and elaborated his definition of “institution” throughout his work. In an early work he spoke of institutions as aggregates of spiritual attitudes:

> The institutions are, in substance, prevalent habits of thought with respect to particular relations and particular functions of the individual and of the community; and the scheme of life, which is made up of the aggregate of institutions in force at a given time or at a given point in the development of any society, may, on the psychological side, be broadly characterized as a prevalent spiritual attitude or a prevalent theory of life.⁶

He extended that definition in another article: “As a matter of course, men order their lives by these principles and, practically, entertain no question of their stability and finality. That is what is meant by calling them institutions; they are settled habits of thought common to the generality of men.”⁷ In one of his last works he defined an institution as “of the nature of a usage which has become axiomatic and indispensable by habituation and general acceptance.”⁸ Veblen used many variations of the dichotomy, each tailored to the particular aspect of society he was analyzing.⁹ But his concept of “institution” remains substantially intact and consistent throughout his analysis.

An important aspect of this definition is that by “institution” Veblen is referring to behavior patterns or functions that exhibit the characteristics he attributes to them in his definitions. These institutional behavior patterns take place in a structural context. While the behavior patterns and structural context are two aspects of the same phenomena, it seems clear that Veblen was interested primarily in analyzing the behavior patterns.

Other authors have referred to these behavior patterns as “function,” and to the structural context as “structure.” It must be kept in mind that this distinction between “structure” and “function” is an analytical one. Although behavior patterns have been described as resulting from “con-
scious, deliberate choice making on the part of people holding and using power to establish structure," through repetition the "institutions" become habitual.\textsuperscript{10} The original conscious decision-making processes which brought them into being are forgotten, and the "institutions" appear and are thought to be "natural" and "eternal."\textsuperscript{11}

The sense in which these behavior patterns are habitual is that they are used but not questioned. Their authenticity or appropriateness to the circumstance in which they are employed is generally explained by recourse to common sense or tradition. The appeal to tradition for verification is tantamount to religious justification of questioned beliefs or behaviors.\textsuperscript{12}

A second important aspect of Veblen's concept of "institution" is that institutions are a non-dynamic factor in cultural development:

> It is to be noted then, although it may be a tedious truism, that the institutions of to-day—the present accepted scheme of life—do not entirely fit the situation of to-day. At the same time, men's present habits of thought tend to persist indefinitely, except as circumstances enforce a change. These institutions which have so been handed down, these habits of thought, points of view, mental attitudes and aptitudes, or what not, are therefore themselves a conservative factor. This is the factor of social inertia, conservatism.\textsuperscript{13}

That Veblen's concept of "institutions" is part of an analysis of behavior on the cultural level is evident:

> To any modern scientist interested in economic phenomena, the chain of cause and effect in which any given phase of human culture is involved, as well as the cumulative changes wrought in the fabric of human conduct itself by the habitual activity of mankind, are matters of more engrossing and more abiding interest than the method of inference by which an individual is presumed invariably to balance pleasure and pain under given conditions that are presumed to be normal and invariable.\textsuperscript{14}

\textit{Hamilton}

The next major development in the evolution of the "institution" concept occurred in the 1930s and 40s, in the work of R. A. Dixon and Walton Hamilton.\textsuperscript{15} The analysis will center on Hamilton for two reasons. First, he is generally credited with naming Institutional Economics, and second, he made an explicit, in-depth attempt to define "institution."\textsuperscript{16} This attempt at definition was probably a result of the danger Hamilton recognized in naming a branch of economics with a term that had a mean-
ing and usage in the vernacular that did not correspond to the specific meaning that these particular economists attributed to it.17

Hamilton's concept of an institution is very complex. To see the concept in a processual context, we will begin by comparing Hamilton's definition with Veblen's. We can then see how Hamilton expanded Veblen's view of "institution."

It can easily be seen that Hamilton includes in his definition those patterns of behavior that Veblen identified as "institutions." Both Veblen and Hamilton agree that institutions are cultural constructs; according to Hamilton, "our culture is a synthesis—or at least an aggregation—of institutions.... The function of each is to set a pattern of behavior and to fix a zone of tolerance for an activity or complement of activities."18 Both point out the role of habit and custom in institutions. Hamilton believed that the concept of institution "connotes a way of thought or action of some prevalence or permanence, which is embedded in the habits of a group or the customs of a people."19 They also agree that compliance with the requirements of the institution is usually unquestioned, that "as long as it remains vital, men accommodate their actions to its detailed arrangements with little bother about its inherent nature or cosmic purpose."20

A vital institution is a behavior pattern that is organizing activities still of technological importance to the community. An institution that interfered with technologically essential activities would in fact eventually be questioned. This reflects Hamilton's notion of evolving institutions, which is dealt with in the next section. Even while acknowledging this difference Hamilton clearly recognized the aspect of culture Veblen called institutions.

There are also, however, two crucial differences in the usage of the term "institution" by Veblen and Hamilton. The first concerns the role of institutions in cultural change. As stated earlier, Veblen saw institutions as a non-dynamic factor in cultural development. More specifically, changing technological circumstances force institutions to change; institutions do not generate changes within a culture. Instead the source of the cultural change is outside the institution and "enforces" a change in the institutional patterns.21 Hamilton does not specifically disagree with this description of institutional change.22 In fact, his statement that "as an institution develops within a culture it responds to changes in prevailing sense and reason" shows an undeniable similarity to Veblen's thinking.23

But while Hamilton does state that institutions change in response to changes in outside circumstances, he also allows for the possibility that change in the institution is a cause of change in the outside circumstances:
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“In this continuous process of the adaption of usage and arrangement to intellectual environment an active role is assumed by that body of ideas taken for granted which is called common sense. Because it determines the climate of opinion within which all others must live it is the dominant institution in society.” Hamilton also saw an institution as “a folkway, always new yet ever old, directive and responsive, a spur to and a check upon change, a creature of means and a master of ends.” This concept of an institution as “a spur to change” seems fundamentally different from Veblen’s concept of institutions as a drag on cultural change.

This is consistent with the second crucial difference between Hamilton’s and Veblen’s definition of an institution, illustrated by Hamilton’s statement: “Moreover the way of knowledge is itself an institution.” Veblen, however, would place “the way of knowledge” in the realm of that behavior he describes as “technology.” Veblen’s theory treats technological behavior as the dynamic element of cultural change. Hamilton’s definition is much broader than Veblen’s since he includes both Veblen’s “institutional” behavior and “technological” behavior in his definition of “institution.” Since he includes Veblen’s “technology” in his definition of “institution,” it follows that he would see institutions as a dynamic force in cultural change. But Veblen is analyzing the institutional and technological aspects of cultural behavior, while Hamilton includes both aspects in his definition of institutions, so it is clear that their concepts of institution are fundamentally different. What makes this important is that both definitions are in the literature of institutional economics and both definitions affected later scholars. While the similarities are often noted or assumed, the differences between the usages are not.

Ayres

Historically and analytically the next major development of the concept of “institution” was to come in the work of C. E. Ayres. Ayres’s concept clearly represents an extension of Veblen’s. Ayres is in agreement with Veblen in that he emphasizes the analysis of “institutional” behavior patterns rather than of social structures. While “institutions” are both functional and structural, Veblen and Ayres emphasize the functional rather than structural aspects. For Ayres, “the term ‘institution’ is not a structural category. 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 certain aspect of social behavior, which is qualitatively different from an-
other aspect.\textsuperscript{29} Ayres also takes the Veblenian view of the role of institutions in social change: "By virtue of its peculiar character, the institutional function is essentially static. In the process of social change, institutional function plays a negative part. It resists change."\textsuperscript{30}

Like Veblen, Ayres is trying to separate out and analyze a particular aspect of culture that is non-dynamic and habit-oriented. Ayres also recognizes the danger of using the word "institution" to denote this aspect of culture.\textsuperscript{31} He points out that "no word is more frequently or more vaguely used in contemporary social science than 'institution,'"\textsuperscript{32} and that "it is not necessary to be an accomplished scholar to realize that we use this term very loosely in common speech."\textsuperscript{33}

To rectify the confusion over the term "institution," Ayres suggests a look back to Veblen. He does this by using the term "ceremonial function" to describe that aspect of culture that he and Veblen are trying to separate out, previously denoted by the term "institution."\textsuperscript{34} A great many institutionalists in the Veblenian tradition followed suit and the Veblenian dichotomy became the ceremonial-technological distinction.

This substitution of "ceremonial function" for "institution" had two major effects. It eliminated the vagueness associated with the term "institution," because "ceremonial" does not have such common usage or a different vernacular meaning.\textsuperscript{35} It also eliminated confusing associations with Walton Hamilton's wider conception of "institutions," also in use at this time.

Ayres also made a major contribution by way of making more explicit some aspects of the ceremonial function. He notes that "one peculiar feature which 'typical' institutions all seem to exhibit is that of determination of authorities. . . . [I]nstitutional authority is authority, defined and supported and limited by custom."\textsuperscript{36} This authority organizes society into a hierarchical structure of privilege and subservience. The hierarchical structure persists because of habit and a ceremonial verification system: "Mores are always accompanied by legends; and these legends, of which every community has so rich a stock, invariably point to a moral. The mores are the morals to which the legends point; and the legends do not merely tell a story. The story which they tell is invariably a mythical explanation of the legendary reasons for the mores."\textsuperscript{37}

These mythical explanations are believed as an act of faith and are beyond question, since they occurred in the ancient past, and were unique events. Ayres spent a large portion of his prolific career expanding the ceremonial-technological distinction.\textsuperscript{38} Further examination of this distinction is unfortunately outside the scope of this article.
The next important contribution grows out of the work of a student of C. E. Ayres, J. Fagg Foster. Foster is associated with the so-called "oral tradition" in institutional economics. Since Foster has published very little, we must look at definitions of "institution" attributed to him by his students.

In his recent book *The Discretionary Economy*, Marc Tool attributes the following definition to Foster: "The term institution means any prescribed or proscribed pattern of correlated behavior or attitude widely agreed upon among a group of persons organized to carry on some particular purpose." Another student of Foster's, Paul D. Bush, defines institution in a recent paper as "a set of socially prescribed patterns of correlated behavior." A third student of Foster's, Louis Junker, in an unpublished manuscript quoted Foster defining institution as "prescribed patterns of correlated human behavior with (a) instrumental aspects and (b) ceremonial aspects." This definition by Foster is, or at least allows, a more expansive view of institutions, permitting the definition in some ways to recover some of the flavor of the usage we have associated with Walton Hamilton. This expansion of the definition was mentioned by Junker in an earlier work:

Clarification of this issue must be ascribed to Professor J. Fagg Foster of the University of Denver, who has broken down institutional structures into their instrumental aspects (after John Dewey) and their ceremonial aspects. This broadens Veblen's viewpoint considerably because he did not concentrate on this point but seemed to be always contrasting obstructionary institutions against dynamic technology only. Thus Foster is making amends to Veblen's analysis by accounting for social behavior patterns that are in rapport with modern technology, and thus are efficient organizational structures. Veblen merely hints around the issue at times.

Foster's ceremonial-instrumental dichotomy is such a significant refinement of the institution-technology dichotomy that it can be considered qualitatively different. This "new" version of the Veblenian dichotomy eliminated problems that arose consistently in the use of the institution-technology dichotomy. It also allows for the application of the dichotomy to new areas of inquiry about social behavior, as well as allowing us to be more precise about our reevaluation of past analysis. For example, it totally eliminates the structure-function problem. If someone uses "institution" in the structural sense, the ceremonial functions of this particular
institutional structure can still be analyzed without the semantic difficulty encountered previously.

The new version also eliminates a similar difficulty on the "technology" side of the dichotomy. Technological behavior has been described by one prominent institutionalist as "organized intelligence in action." This process is considerably more than simply tools and tool skills, but institutionalists have at times allowed themselves to slip back and forth from the "organized-intelligence" definition to the "technology-as-tools" definition. By substituting "instrumental behavior" for "technology," this slipperiness can be avoided.

Possibly the most significant aspect of Foster's refinement is that he isolated that aspect of culture that Veblen wished to analyze and called it ceremonial behavior, in addition to isolating those behaviors that oppose ceremonial behavior and calling them instrumental behavior. This allowed the dichotomy to be used as a tool of analysis not only to evaluate human behavior and identify its instrumental and ceremonial qualities, but also to evaluate their earlier version of the dichotomy itself.

Earlier and More Recent Developments
and Their Associations with the
"Technology Controversy"

In reviewing the recent controversy over technology mentioned earlier, we find it to be only an example of a problem that has pervaded the writing of economists in the Veblen-Ayres tradition for several years. The articles cited concern a disagreement over the meaning of "appropriate technology," but in fact the disagreement among the authors is on a much more fundamental level. By this I mean that they are not arguing over the "appropriateness" of technology, rather their disagreement stems from a dual meaning of "technology."

On one side of the disagreement is the concept of "technology" as it appears in the "old" dichotomy. There the technological process is the source of dynamic progressive change in a culture. It is that behavior which promotes the continuity of the life process. Unfortunately "appropriate" technology advocates are not using the word "technology" in this way. They are using "technology" to mean "tools," and their use. Inevitably in the analysis of this issue by institutional economists there is confusion over which definition of technology the authors intended to use. For example, one author writes: "Institutionalism views technology as the dynamic force for economic change." In this case he appears to
mean technological behavior. But in the same paragraph he also writes: "But from an institutionalist or evolutionary economics perspective, merely removing traditional elites from power does not automatically liberate technology."\(^ {46} \)

If the author means technology as used in the "old" dichotomy, this statement is contradictory. Behavior which by definition is liberating does not need to be liberated. If the author means technology as tools, the statement makes perfect sense. This is not intended as a criticism of the above-cited author; in fact all of the institutionalists involved in this controversy have the same difficulty. It is the term that causes the confusion. This confusion over usage of the term "technology" in some cases leaves the impression that the author would uncritically applaud any application of a tool or gadget as part of the technological process, irrespective of its impact on the life process. In fact the "old" version of the dichotomy particularly lends itself to this sort of confusion.

Those on the other side of this controversy are responding to this impression. They in fact are using the "new" dichotomy. They say that any application of tools can be evaluated; its adequacy for solving a problem can be adjudged from its consequences. And tool application as human behavior can be evaluated for its instrumental and ceremonial aspects. The confusion over the meaning of technology is avoided by those using the "new" dichotomy, since in their analysis the word never need be used.

Neither side disagrees with the other on the definition of the technological process. But instead the disagreement is one over the use of the "old" dichotomy as opposed to the "new" dichotomy. If it were simply a matter of semantics this controversy would be an example of pedantry of the worst sort. But in examining another issue of current interest among institutional economists, that of "ceremonial encapsulation," we can see it is a substantive disagreement.

Bush and Junker, both students of Foster, have been simultaneously developing the notion of ceremonial encapsulation of technology using the "new" dichotomy.\(^ {47} \) Junker describes this phenomena:

Spurious 'technological' developments, on the other hand, are those which are encapsulated by a ceremonial power system whose main concern is to control the use, direction, and consequences of that development while simultaneously serving as the institutional vehicle for defining the limits and boundaries upon that technology through special domination efforts of the legal system, the property system, and the information system. These limits and boundaries are generally set to best serve the institutions seeking such control. . . . This is the way the ruling and dominant institutions of society maintain and try to extend their hegemony over the lives of people.\(^ {48} \)
Junker goes on to point out that this is not consistent with promoting the continuity of the life process but instead "it serves to shackle mankind." Bush's development of this concept is essentially the same, while using slightly different terminology.

It is significant that the concept of ceremonial encapsulation of technology is being developed by institutionalists using the "new" dichotomy. Using the "old" dichotomy the concept of "ceremonial" technology has no meaning. Using the "new" dichotomy it can be analyzed in the manner of Junker and Bush. This illustrates the fact that the "new" dichotomy leads to innovative social analysis in areas previously neglected, though not ignored, by institutionalists.

Inherent difficulties in the "old" dichotomy resulted in (1) a lack of emphasis on analysis of the type being done by Bush and Junker, and (2) the "appropriate technology" debate. These difficulties are a result of the dual usage of the concepts of "institution" and "technology" in the "old" dichotomy. This is not a matter simply of correcting the dual usage problem; more careful usage of these terms might clear up some of the confusion, but it would not eliminate another substantive problem also related to the "old" dichotomy and particularly apparent in the concept of "technology."

The meaning of "technology" in the vernacular is associated with implements and their application. The institutionalists' conception of the "scientific-technological process" is larger and more encompassing. Even if institutionalists focus on the correct version for their analysis, the term "technology" has a tendency to shift the focus of the analysis to techniques.

One problem resulting from this is difficulty in correctly identifying the problem or in asking the correct question. The scientific-technological process is a problem-solving process. If we focus on tools, scientific apparatus, and techniques, as we are apt to do in our complex society, we sometimes define the problems in terms of the techniques we use to solve them. An example of this in economics is when economists discuss at great length in the literature the use of sophisticated mathematical techniques to solve problems of choice involving risk by maximizing expected utility, while ignoring the issue of the meaningfulness of the concept of maximizing expected utility. We have concentrated on the use of a sophisticated tool while ignoring whether the application we have chosen is appropriate.

This emphasis on technique is like two individuals arguing over whether an ocean liner or a rowboat is more appropriate for crossing a lake, without ever considering walking around it. They have missed the point that the real question is how to get from one point to the other; emphasizing the techniques leads to misidentifying the question. Since we evaluate solu-
tions to problems on the basis of all their consequences, we cannot properly evaluate all the consequences without examining all the alternatives.

A similar misidentification of the correct question can be found on the "institution" side of the "old" dichotomy. This occurs when "institution" in the structural sense is confused with institutional behavior. For example, if we identify the nuclear family or the Catholic Church as institutions, we have a tendency to overlook the fact that these structures are made up of technological (instrumental) behaviors as well as institutional (ceremonial) behaviors.

The dual usage problem may also lead to evaluating behaviors out of context. The best solution to a problem cannot be found if the social milieu in which the problem occurs is not considered completely. This is not a relativist position; the social milieu does not determine the correct or better solution to a problem. But all the consequences of proposed solutions cannot be evaluated without considering the environment in which this proposed action is to take place. This has not been a significant problem among institutionalists; in fact their explicit consideration of the social milieu is one of the main things that differentiates them from their orthodox counterparts. But the "new" dichotomy, particularly through the concept of ceremonial encapsulation, makes this difference more pronounced and more explicit.

**Implications**

These problems, present in the old dichotomy to whatever degree, have achieved a crucial level of importance in recent years. The institutional economist in the Veblen-Ayres tradition evaluates actions on the basis of all the effects of that action on the continuity of the life process. This evaluation process obviously requires the best information possible about potential consequences. That methodology which best makes us aware and anticipates consequences has always been the most desirable. We have recently been reminded that it is crucial.

The revelation in the last few years of the extent of the consequences of dumping toxic waste into the environment in general, and our water supply in particular, has served to remind us of the importance of unanticipated or ignored consequences. It has also served to illustrate the even greater importance of anticipating these consequences, because some have the quality of being irreversible. The irreversibility of some consequences is not new, but the scale of these consequences is unprecedented. Their destructive capacity has expanded to encompass the entire planet. In recent years alone we have seen the examples of potential nuclear destruction, destruction of the environment through pollutants in general, the
possible destruction of the ozone layer, and the reduction in the size of the gene pool of crucial agricultural plants. The list could, of course, go on. We discovered these consequences and the process of solving these problems is underway.

Discovering these consequences was crucial to the continuity of the life process. The improvement and refinement of our analytical tools to better anticipate consequences of this type, and to discover ways of solving problems resulting from our actions, is the most important task before the human race.51

The current discussion among institutionalists on the methodological questions characterized in this paper as a conflict between the "old" and "new" dichotomy is in fact an attempt to refine their tools of analysis. The purpose of this paper has been to reemphasize that the dichotomy is an evolving tool of analysis and that it is necessary to frame current controversies among institutionalists in terms of the meaning of the evolving dichotomy for future analysis. If what I have described as the "new" dichotomy is a superior tool of analysis, it should be used. This can only be determined if the controversy over the meaning of the dichotomy is addressed as a crucial methodological question, rather than on an issue-by-issue basis.

Notes

2. The generality of this particular formulation is attested to by the fact that later institutionalists have seen fit to spend a great deal of time defining these particular terms, rather than other formulations, when writing economics texts. See, for example, C. E. Ayres, The Industrial Economy (Cambridge, Mass.: Riverside Press, 1952), p. 42; W. Nelson Peach, Principles of Economics (Homewood, Illinois: Richard D. Irwin, 1960), p. 10; Marc R. Tool, The Discretionary Economy (Santa Monica: Goodyear, 1979), p. 73.
3. For a representative sample of this discussion see the exchange between Hayden and DeGregori in Journal of Economic Issues 14 (1980).
4. This discussion is drawn from Jacob Bronowski's discussion of genuine knowledge in his book The Origins of Knowledge and Imagination (New Haven: Yale University Press, 1978).
7. Thorstein Veblen, The Place of Science in Modern Civilization and Other Essays (New York: Viking Press, 1919), p. 239.
11. This discussion is drawn from Marc Tool's *The Discretionary Economy*, pp. 73–78. What we are concerned with in this context is Veblen's interest in the habitual nature of behavior patterns. I find Tool's discussion to be consistent with Veblen's views, but it should be recognized that Tool's analysis expands and extends Veblen's analysis significantly.
19. Ibid.
20. Ibid., p. 87.
22. In fact R. A. Dixon, in his *Economic Institutions and Cultural Change*, uses Hamilton’s definition of institutions, but quotes Veblen (see footnote 21) on institutional change, and sees the two as completely compatible.
24. Ibid.
25. Ibid., p. 89 (emphasis added).
26. Ibid., p. 88.
30. Ibid., p. 49.
31. This is characteristic of Ayres’s early work. A shift has been noted by some writers. See Marc Tool, "A Social Value Theory in Neo-institutional Economics," *Journal of Economic Issues* 11 (1977): 823. See particularly footnote 75 on p. 845. This shift is to a view similar to J. Fagg Foster’s. I would like to acknowledge my debt to one of the referees for pointing this out in a review of an earlier draft.
34. The innovation by Ayres was not in the use of the term “ceremonial.” Veblen used this term in Imperial Germany and the Industrial Revolution (New York: Viking Press, 1939). The innovative aspect is his consistent use of “ceremonial” in place of “institution” in the Veblenian dichotomy.
35. This type of problem was not completely eliminated, but appears to be reduced. See Ayres, The Theory of Economic Progress, p. 156.
36. Ayres, The Industrial Economy, p. 43.
37. “Mores” is William Grahm Summers’s term; Ayres sees it as similar, but not identical, to “institution.” See also Ayres, The Industrial Economy, p. 44.
42. Junker, Social and Economic Thought of Ayres, p. 46.
43. This definition of technology is from the lectures of Professor David Hamilton of the University of New Mexico.
46. Ibid.
49. Ibid., p. 4. I would contend that what I have called the “new” dichotomy is in fact the “radical” implications of the dichotomy to which Junker’s paper refers.
50. It is interesting to note that Ayres thought the dual-usage problem significant enough to address it in his Addendum to The Theory of Economic Progress, and indicates that resolution of this problem would be a major benefit.