The authors [of The Crisis of Vision in Modern Economic Thought, Robert Heilbroner and William Millberg] also understand deeply the influence of the great masters of our trade—Smith, Ricardo, Marx, Mill, Marshall, Keynes, and Heilbroner's own mentor, Adolph Lowe. Lowe would have heartily approved of the tasks which the authors want us to do for they were in large part created by his own substantial but much neglected contributions and insights.

—GEOFFREY HARCOURT (1997: 1922-1923)
departed from Lowe's positions. Their audiences and writing styles also often diverged. Nor did the influence flow in only one direction: Lowe took Heilbroner's work very seriously. Despite all this, it still may be the case that in some respects Lowe's impact and influence on his best known student's thought remains largely overlooked and underappreciated. This is not the place for a comprehensive analysis of the pair's relationship and intellectual connections. Instead, what follows is a looser, but in many respects more substantial, situation of Lowe and his outlook within the larger scheme of Heilbroner's themes and ideas.

ADOLPH LOWE AND HEILBRONER'S WORLDLY PHILOSOPHY

As readers of The Worldly Philosophers (1953) may recall, Heilbroner became interested in "the lives, times, and ideas of the great economic thinkers" after registering for a graduate course taught by Adolph Lowe on Smith, Ricardo, and Marx at the New School's Graduate Faculty in the mid-1940s. But it was not simply that Lowe inspired an interest in the history of economic doctrine; Heilbroner adopted Lowe's basic vision as outlined in the latter's Economics and Sociology (1935), his article "The Classical Theory of Economic Growth" (1954), and related writings. This included not only the interpretation of the great classical political economists such as Smith, Ricardo, and Marx (both Lowe and Heilbroner considered Marx in many ways the zenith of classical political economy), but the reading of later writers such as Keynes, Veblen, and Schumpeter (despite their own stated distance from the classical school) as fundamentally in this same tradition of viewing the economy as historically and institutionally situated, and the sharp contrasting of this tradition with that of neoclassical economics.

For Lowe, the static equilibrium models of neoclassical economics were inadequate to analyze the "dynamic chain of reciprocal causation" at work in industrial capitalism (Lowe, 1935: 138-39). Instead, what
was required was a theoretical approach that could endogenize the structural factors taken as given in standard presentations. Economic analysis must be accompanied "by a theory of the evolution of its . . . data" since "[t]he essential variations of those data [are] effected" by economic processes themselves (93-96). Lowe was even dissatisfied with twentieth-century work on economic dynamics precisely due to the fact that the "time honored distinction between dependent and independent variables—that is, between an economic process and the underlying meta-economic forces which drive it on and change it—is generally maintained" (Lowe, 1954: 128). Even "dynamic process analysis" was "but a dim reflection" of what is found in the classics and Marx (128). In fact, Lowe argued that it is the "issue of endogeneity versus exogeneity, rather than conflicting theories of value" that separates "genuine Classical theory" from "post-Millian economic reasoning, including all versions of neoclassical analysis" (129). The issue regards

the entire possible range of deductive reasoning. Let us be quite explicit about the disputed region. It concerns the whole natural, social and technical environment of the economic system . . . and . . . the changes in these elements through time. [For the classical economists and Marx] the explanation of the order and changes of these data itself formed part of the theoretical work of economists (129-30).

For Lowe, then, the classical economists applied their method over a much wider range than the neoclassical authors, to include the social-historical and environmental context of economic processes. Thus, for Lowe an evolutionary approach would aim to once again "extend the range [of analysis] . . . to the sphere of the natural and social data of the market process, and thus to facilitate an estimate of the direction and limits of possible dynamic changes of the system as a whole" (1935: 67). In this view, the classical approach considers areas thought to be outside the scope of economics in the neoclassical perspective—areas
falling broadly under the headings of the sociopolitical, historical, and environmental contexts of economic processes—as legitimate targets of analysis.

Perhaps the notion in economics that Lowe’s vision most resembles is cumulative causation, now recognized as one of the fundamental concepts in post-Keynesian, institutionalist, and evolutionary political economy (Forstater, 2004). Early proponents of the principle were Veblen (1898) and Allyn Young (1928), with later elaborations by Myrdal (1944) and Kaldor (1985). Another early, and unrecognized, expositor of the concept was Adolph Lowe himself (1935 and passim). In addition, it is not clear that the other writers directly influenced Lowe. Like Young and Kaldor, Lowe found inspiration for the notion in Adam Smith, but for Lowe it was rather the work of the classical political economists and Marx generally that exhibited the basic vision of cumulative processes, or what Lowe called variously the “dynamic chain of reciprocal causation,” the “strange process of self-generation,” or “mutual causation” (1935).

This view of the dynamic sweeping vision of the worldly philosophers’ view of capitalism as a deterministic social system where impersonal forces move history and endogenous processes result in ongoing systemic transformation was clearly adopted by Heilbroner. In The Worldly Philosophers, he outlined their dramatic scenarios depicting the almost inexorable movement of the capitalist system, with its “laws of motion”—systematic tendencies leading to some “future immanent in the present.” Underlying the system’s movement were a variety of factors, both economic and noneconomic. In other words, the trajectory of the system was inseparable from the wider sociopolitical and environmental context within which the economy is situated, as well as the subjective drives and behavioral tendencies of historical agents, which both shape and are shaped by changing socioeconomic and political structures.

Marx’s analysis of capitalism is thoroughly in this tradition, but his vision of socialism as an alternative represents a crucial break with
the classics, concerned as it is with historical possibility. J. S. Mill is viewed as a transitional figure insofar as his work illustrates a growing awareness of the possibility of human interference into the trajectory of the system, and thus a significant decrease in the determinacy of the trajectory. Large-scale structural and technological transformation, socioeconomic crises, and the increasing presence of the state in economic affairs set the stage for Schumpeter, Veblen, and Keynes, each with his own vision of the future toward which the system may be heading. Worldly philosophy, then, is very much a historical economics, not only in its emphasis on the importance of the history of economic thought and economic history, but in its insistence that the historical approach is necessary also for doing theory.

VISION, VALUES, AND INTERPRETATION

Heilbroner's initial fascination with the worldly philosophers' prognoses led to his own analyses of the economic, political, cultural, and social-psychological drives, motivations, and propensities underlying production, distribution, and exchange. In these investigations, Heilbroner adopted his own versions of Schumpeter's (1954) notions of "vision" and "analysis." Whereas for Schumpeter (also a former professor of Heilbroner) analysis had a kind of "cleansing" effect—which prevented the necessarily ideological nature of the "pre-analytical cognitive act" from tainting the scientific endeavor—for Heilbroner economic theory is inescapably value laden. Biases are always present, at times lurking just beneath the surface but often emerging in the form of assumptions that determine the content of their analytical categories and the direction of their prognostications. Thus the importance of his notions of scenario, vision, analysis, and ideology.

A scenario is a "complex narrative . . . combining many prognoses" (Heilbroner, 1990: 1111). Visions are not scenarios; rather, they are "the source, but not the determinants of social prognoses" (1111). Neither are visions the result of scenarios; they are "pre-
The directions of the prognoses are the result of logical analysis, which, however, can never be completely independent of either vision or ideology. Scenarios thus "combine powerful analytical frameworks with highly personalized visions concerning the motives and behaviors of the actors within those frameworks" (Heilbroner, 1993: 122). The distinction between vision and ideology depends on whether one's preconceptions and sociopolitical orientation are made explicit, or whether they are hidden and even denied: "That which we call ideology is therefore perhaps best understood as unrecognized vision, and that which I call vision as consciously embraced ideology" (Heilbroner, 1994: 329).

For Heilbroner, "Economics is unavoidably visionary, because its analytical architecture is built on a foundation of sociopolitical constructs and construals; and it is built on this foundation because no other exists." (Heilbroner, 1994). Heilbroner makes it clear that "vision informs us that our vocabulary is sociopolitical not for reasons of a regrettable impurity in our conceptualizing processes, but because the economy itself is a social, rather than a natural order of things" (Heilbroner, 1994):

Let me briefly indicate that which vision forces us to see. It strips away the illusion that markets are impersonal economic "mechanisms" and makes us recognize that they are also a means of arranging sociopolitical outcomes. In every other social formation, the determination of the relative material fortunes of its members is immediately perceived as reflecting and perpetuating the distribution of power and prestige in that society. Most conventional modern economics seeks to hide that recognition from us (Heilbroner, 1994).

This is part of what Heilbroner has called the "crisis of vision" in modern economics. The "economy" (which is wrongly equated with
the “market”) is viewed as “dis-embedded.” This view has resulted in the distinction between “exogenous” and “endogenous” that many heterodox economics frameworks accept without question. As different as heterodox and mainstream theories may be, many heterodox approaches share with the mainstream this notion of a dis-embedded economy implicit in the “exogenous/endogenous” distinction, and a positivist or hypothetico-deductive method of beginning with the “data” and then employing theory to “predict” or “explain.” (It is no surprise that one of the earliest expressions of the exogenous/endogenous distinction is found in Robbins’ *Essay on the Nature and Significance of Economic Science* [1932]).

Two sharply contrasting visions of capitalism are emerging here. In fact, even the word “capitalism” is not shared by the two visions. Heilbroner has recently taken many opportunities to ask why the word “capitalism” is missing from most mainstream economics texts and journals (see, for example, Heilbroner, 2000). For Heilbroner, “the market” and “free enterprise” are not synonyms for capitalism. Capitalism, in the Lowe/Heilbroner vision, is a social system, a regime, a historical society, a social formation, a mode of production with legal, political, social psychological, and cultural, and not only economic, aspects. As Lowe pointed out many years ago, “the modern theory of choice and valuation claims to have disclosed the essence of economic activity, independent of the forms in which this activity manifests itself in time and space” (1935:18). Part of the neoclassical project was to “eject just those substantial elements that before had linked economic research with political science, law, psychology, and history—striving after ‘pure economics’ as an independent body of exact knowledge” (26).

Though Heilbroner’s explicit self-identification with a “hermeneutic” approach came relatively recently, he has always emphasized that all inquiry is necessarily interpretive. For Heilbroner, this means that the very object of inquiry cannot be taken to be self-evident. The “economy” is an abstraction from the social totality, and thus defining the very subject matter of economics is a task that influences
the nature and direction of analysis. Like Lowe, Heilbroner has long advocated “material provisioning”—the harnessing of society’s material resources to provide for the needs of its members—as the central problem of political economists (see Lowe, 1977 [1965]: 6-18). He argues against the notion of any universal “laws,” emphasizing the historical specificity of capitalism in human history. Heilbroner’s interpretive and historical approach, rejection of universal laws, and refusal to “read” markets back into pre-capitalist economies provide a welcome respite from the “economics imperialism” of modern economics, and follows clearly in the path forged by Lowe. The Lowe/Heilbroner approach also distinguishes itself from the “interpretive turn” in economics in important respects.

Most of the work coming out of the interpretive turn in economics has focused attention on the “rhetoric of economics” and the rhetoric of economists, but not the rhetoric of the economy and economic agents. In Lowe’s critique of economic laws, however, he makes it clear that he intends to

focus attention on the “order of the world” to which these so-called laws refer, rather than the scientific procedure by which they are formulated. Not the methods of economic inquiry but the process of bargaining and exchange itself, especially as reflected in the minds and actions of the participants, will be the main field of our investigation (1942: 433).

This focus makes the Lowe/Heilbroner interpretive approach closer to that of Lowe’s long-time colleague at the Graduate Faculty, Alfred Schutz, the father of phenomenological sociology (see Forstater, 2001). Schutz, of course, was not the only figure with important connections to interpretive social science with whom Lowe has important personal and professional ties. Karl Mannheim was a colleague of Lowe’s at Frankfurt, and the two team-taught courses together and
their collaboration continued in exile (Kettler et al., 1984: 71-72, 81-82). In fact, Schutz and Mannheim are two of the four individuals to whom Lowe dedicated On Economic Knowledge, stating that he owes them “an intellectual debt which a lifetime is too short to pay” (1977 [1965]: ix). Michael Polanyi was Lowe’s colleague at Manchester, and Lowe continued throughout his life to draw on Polanyi’s ideas (see, for example, Lowe, 1992).

Of course, as both Lowe and Heilbroner recognized, it is not easy to separate out these issues from issues of method. Lowe argued that it is simply unacceptable to treat economic agents as we treat the units of analysis in the physical sciences—that is, as “insensitive particles moving blindly though lawfully to blind stimuli” (Lowe, 1977 [1965]: 61). Rather, in the social sphere we deal with “purposeful actors who ‘move’ only after they have interpreted their field of action in terms of their goals and their common-sense knowledge” (Lowe, 1977: 61; see also Heilbroner, 1973: 133-134; 1991: 468-469). It is this very approach considering the “common-sense interpretation of the ultimate ‘facts’—buyers’ and sellers’ behavior—by the actors themselves that so greatly encumbers the work of the economist” (Lowe, 1969: 5-6). In other words, both Lowe and Heilbroner recognized that social inquiry operates in a context of multiple layers of interpretation—the “double hermeneutic” of the social sciences.

The Lowe/Heilbroner approach distinguishes itself from other hermeneutic approaches in another important respect. Human purposiveness and intentionality are only one source of knowledge problems in the social sciences recognized by Lowe and Heilbroner. Another issue is the fact that the object of inquiry is subject to change. As we have seen, for Lowe and Heilbroner economic activity transforms the economy and economic actors, and any approach with “invariable data is defective from the very outset” (1935: 138-139). Lowe recognized that economic activity also transforms the natural world: “the technique of the industrial age has broken through the traditional borders between the social and natural world and has subjected more and more sections
of the organic and inorganic world to human influence” (1935: 153). This means that there are serious knowledge problems for the natural sciences, and not just those due to the values of the scientist. Since social scientists must examine not only humans and societies but the physical and natural world they inhabit, this presents a challenge to all forms of inquiry: the object of inquiry is undergoing constant transformation, making it difficult to identify regularities and formulate reliable generalities.

**IS WORLDLY PHILOSOPHY STILL POSSIBLE?**

The Lowe/Heilbroner view of capitalism as a social regime means political economics cannot “predict” or “explain” with the same kind of “scientific” accuracy claimed by mainstream economics. Looser social prognoses or scenarios are possible, made up of a number of loose deductions and inductions (and, importantly, retroductions). But for Lowe and Heilbroner, late capitalism is even less conducive to such prognostications.

Lowe identified the deductive method as the method of both the classical and neoclassical approaches (though, as seen earlier, in the classical approach, the range of deductive reasoning was much wider). But Lowe also came to the conclusion that economic method—and not only economic theory—is historically dependent. Thus, while Lowe was a critic of the deductive method, especially later in his life, he believed that the conditions for the appropriate application of deductive reasoning were in fact in place during the period of classical economics. But with the historical transformations of capitalism resulting in environmental, institutional, behavioral, and sociopsychological changes, these conditions no longer hold in the contemporary era (Lowe, 1977 [1965]). From around the mid-1950s onward, Lowe believed what he called *instrumental analysis* is the appropriate methodology for economic theory and public policy. This position draws in part on the fact that the “laws” or tendencies that once held in the classical era were no longer reliable, and in part on the tremen-
dous increase in the scope for human intervention into the system’s processes themselves. Rather than being predictive or descriptive (that is, explanatory), political economics could and should be prescriptive. Rather than taking the initial conditions as given and addressing theory to predicting outcomes, Lowe proposed taking as given a pre-determined end-state: a vision of the desired outcomes. The task then becomes the derivation—the discovery—of the technical and social paths by which these outcomes might be achieved (structural analysis), the behavioral and motivational patterns capable of setting the system onto a suitable path (force analysis), the environmental contexts capable of encouraging or inducing these patterns, and policies shaping/creating the environmental contexts.

In recent years, Heilbroner has questioned whether, under contemporary circumstances, worldly philosophy is still possible. He believes that scenarios and visions do not lend themselves to formal analytical procedures. More important, he believes that the economic behaviors that set the system on its path have become less dependable, while political intervention has become more strategic. Heilbroner similarly came to the conclusion that an instrumental approach, in Lowe’s sense, has become more appropriate, with “blueprints depicting possible routes from present realities to desired destinations” replacing “scenarios depicting a future immanent in the present” (Heilbroner, 1992: 381; see also Forstater, 1999). Rejecting both the “tripartite class structure” of classical political economy and the “individual-centered” approach of neoclassical economics as inappropriate for the modern era, an alternative vision is proposed based on the two sectors—private and public—and their respective roles in the contemporary provisioning process (Heilbroner and Milberg, 1995: 118ff.).

A key issue for both Lowe and Heilbroner is the increasing “openness” of the system. The determinism of the classical system was rooted in “laws” that were seen to govern relations between such factors as population (labor supply), subsistence (wages), natural resources, employment, and technical change. The “iron law of
wages,” the “law of population,” and “the (classical) law of diminishing returns” were seen as natural, so unalterable. With Marx, these laws were viewed as “tendencies,” and were certainly not “natural” but historically specific to capitalism (or even a stage of capitalism). Yet Marx as well, with his “falling rate of profit” and “general law of capitalist accumulation,” still viewed the system as governed by strong regularities, and though some room for influence might exist, there remained definite limits.

As Lowe observed, in the classical era, “impersonal forces or ‘laws’ which might be observed or interpreted, but which could not be altered” appeared to govern such relations, but scientific and technological advance later transformed most of these law-like relations into variable ones, capable of human influence: “That which once ‘happened,’ can now be made to happen, or prevented from happening” (Lowe, 1971: 568). Furthermore, having created the technological potential to both induce and prevent disaster, humankind has “no alternative to accepting the challenge of the new era”:

> In the face of this tremendous enlargement of human capabilities, there is no possibility of turning away. Even doing nothing, or outlawing the advance of our further capabilities, would be as much an act of intervention as exploiting our newfound capabilities to our utmost (Lowe, 1971: 568).

More than anything else, it may be this existential predicament that concerns Heilbroner: “From now on, the future will have to be more and more the result of our deliberate choices, at every level of human activity” (Lowe, 1988: 2).

**VISION, SCENARIO, ANALYSIS: INSTRUMENTAL INTERPRETATIONS**

Heilbroner and Lowe both came to the conclusion that, in a sense, worldly philosophy is no longer possible. Nevertheless, rather than
throwing away the notions of "vision," "analysis," and "scenario," they may need only to be modified in the context of Lowe's instrumental analysis. Vision in this context refers to Heilbroner's "desired destinations"—goals such as a sustainable society (in a sense, the emphasis shifts from vision as "sight" to vision as "what is seen," although the two are obviously connected). Scenarios here are possible routes connecting the vision of the desired future back to the present—Heilbroner's "blueprints"—rather than prognostications of "futures immanent in the present." Analysis in this context is the method of discovery—the means by which scenarios are discerned. The distinction between vision and ideology still holds—a vision is not ideology (in the negative sense) as long as it is consciously stated and critically examined. Visions are still "pre-analytical," but in a very different sense (because analysis works backward from the vision of the imagined future).

The instrumental method is thus a regressive procedure, beginning from where we want to go (pre-analytical vision) and working backward (analysis) to our present state, or a state within our present reach (Lowe, 1977 [1965]: 143-44; see also Forstater, 1999). The derivation of a suitable path is a scenario derived by working backward. Next the execution of the plan may commence, working forward from our present state along the path we have outlined through the analysis.

These instrumental interpretations of vision, scenario, and analysis are quite similar to their usage in some recent work in ecological economics and structural economics. Lowe and Heilbroner's classical and Marxian emphasis on material reproduction and system viability can be fit in to a broadened view of sustainability, referring not only to environmental sustainability, but economic, political, and social sustainability as well. The connection is important in another sense as well: Lowe and Heilbroner's shared interest in environmental and ecological issues, which emerged well before these became popular topics (see Forstater, forthcoming).

The methodology of ecological economics uses the notions of vision, analysis (including structural analysis), scenarios, and implementation (synthesis):
Making sustainability operational requires the integration of three elements: (1) a practical, shared vision of both the way the world works and of the sustainable society we wish to achieve; (2) methods of analysis and modeling to the new questions and problems this vision embodies; and (3) new institutions and instruments that can effectively use the analyses to adequately implement the vision (Costanza, Olman, and Martinez-Alier, 1996: 1).

This is reflected in the section headings of the book from which the above quote is taken, Getting Down to Earth, a key text in ecological economics. Chapters in the book are organized under three themes: "Vision," "Analysis," and "Implementation."

Ecological economists are virtually unanimous in their view that work must begin with vision:

If most policy discussion focuses on implementation, virtually all the rest focuses on modeling and information. This leaves just about no room for the remaining step of policy formation, which should be first—the establishment of clear, feasible, socially shared goals (Meadows, 1996: 118).

Visions and envisioning are at the heart of the methodology of ecological economics (see also Costanza, 2001). A vision of a sustainable society is a necessary prerequisite to devising policies for its attainment. Moreover, visions and the envisioning process can assist in the discovery of such policies. Vision is where everything starts—it is pre-analytical. As such, what follows the vision is analysis. Analysis attempts to link the imagined future back to the present reality.

Ecological economics uses structural analysis to build scenarios. Scenario here is used somewhat differently than in Heilbroner's discussion of the worldly philosophers' scenarios. In the latter case, a
scenario was a dramatic set of prognoses concerning where the system was heading; scenario here is a possible route leading to the vision of the future:

In structural economics each scenario about the future could (if one wished) be viewed as a hypothesis or an experiment. But the feasibility at issue is mainly that of the scenario itself, or perhaps of a family of related scenarios, rather than the validity of the theory or model (Duchin, 1998: 6).

While ecological economics has taken a pluralistic approach to methodological issues, there are common themes that can be found in the ecological economics literature. The importance of vision, analysis (including structural analysis), scenarios, and implementation is discussed over and over again by ecological economists. As can be seen, the meaning of these terms in ecological economics is related but not identical to their use in Heilbroner's worldly philosophy. But the ecological economists' use of the terms is very close to their use in Lowe's political economics or instrumental analysis, also supported by Heilbroner as the appropriate method for the contemporary era.

ENVISIONING (CAPITALIST AND POSTCAPITALIST) PROVISIONING
Heilbroner's worldly philosophy and Lowe's political economics (and its instrumental inference) present a vision of capitalism as a historically specific and dynamic social system. This vision's historical specificity means that other systems preceded it, and others might come after it—in other words, it is legitimate to consider postcapitalisms. Its dynamism means that there are different types of capitalism:

I think the advantage of a historical perspective is that it helps one imagine alternative formulations for capitalism,
whereas a perspective that takes the existing structure for granted tends to inhibit the reach of that imagination (Heilbroner, 1988: 68).

Lowe and Heilbroner both reject the mainstream treatment of the private/public sector relation. As Heilbroner and Milberg argue in The Crisis of Vision in Modern Economic Thought, "[i]t is the legitimacy of the public sector within capitalism that lies at the core of the contemporary crisis of vision" (1995: 120). Galbraith, commenting on Heilbroner, has made the point nicely:

There is a further and comprehensive fraud that dominates in even the scholarly economic and political thought. That is the presumption of a market economy separate from the state—in popular expression, the private and the public sectors. . . .

Any notion of a separation between the public and a private sector, between industry and government, is here plainly ludicrous. Nonetheless, the reference is ignored in all everyday and most scholarly economic and political expression. And what is so ignored is in some measure sanctioned. I hesitate again here to speak of innocent fraud; it is far from being socially benign (Galbraith, 1999).

As Heilbroner himself puts it:

Markets aren't free. They depend on government. . . . Government is always on the defensive in contemporary economics and markets are always, all things considered, on the good side. Of course, economists know there are monopolies and trusts and all of that, but, by and large, markets get a favorable reading and government gets an
unfavorable reading. So they call them free. But without the government, the market as a system would not last two minutes (Heilbroner, 1999).

For Heilbroner, in the contemporary era the government is part of the economy, and an important and strategic one, not "exogenous." This does not mean Heilbroner and Lowe have not learned anything from the lessons of the Soviet-style systems, or that they are promoting a purely Keynesian view, which they also critique. But there is no autonomous, dis-embedded "economy" separate from political society, and there is no "economics" that is not political economics. The only question is whether politics is part of the vision, or is denied, and therefore is ideology in the pejorative sense.

Despite Heilbroner's skepticism, he continues to express the hope that the "irrelevant scholasticism" (1994: 8) of contemporary neoclassical economics might be replaced with a reinvigorated political economy. Political economy "may perhaps [be] resurrected by a corps of dissenting economists," employing a framework that "take[s] full cognizance of the sociopolitical realities of our time, whatever the difficulties they may pose for the construction of elegant models. . . . [A] rekindling of the tradition of political economy is within the realm of possibility. That would indeed be a happy ending to the teachings of the worldly philosophy" (Heilbroner, 1996: 336).

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