The work of Kenneth E. Boulding cannot be reviewed in a short paper. He authored over 40 books and 1000 papers in a professional life that spanned nearly sixty years – 1932-1991. The outpouring of literature covers a wide range of topics, but four themes dominate:

1. Economics from the inside (theoretical and technical economics)
2. Economics for the outside (how economists can and should relate to non-economists)
3. Peace
4. Religion

And there is an overarching theme that integrates all of these. The overarching theme seems to be the object of Boulding’s collected works and represents his contribution to intellectualism and scholarship. It is, of course, his general or systematic view of the social sciences in which economics, sociology, political science, and sometimes psychology and religion are asked to work together in addressing the problems of our times. Boulding was an economist, but he was also a generalist who saw economics as only one approach to solving problems. When Boulding talked to non-economists he asked them to learn more about economics. When he talked to economists, he urged them to become more familiar with the people and the topics that were being discussed. This paper is limited. It consists of comments on the themes that Boulding developed when he talked to agricultural economists and a very brief comment on his contributions to environmental economics.

Boulding’s interface with agricultural economics and agricultural economists is fascinating. He had no first-hand experience with farms or farming. After completing

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the formal years of his education, he took a job in Great Britain to study “meat and milk.”
I cannot find any evidence of this study or this work. I am unsure what it was, what
approach was taken, or whether or not it was even completed. Boulding makes no
reference to it in his later work. So, when Boulding spoke to the American Farm
Economics Association or to groups called together by the Farm Foundation, we have a
city man talking to the ex-farmers who were the agricultural economists of his
generation.

Although I am sure that Boulding made many more presentations to agricultural
economists, the on-line bibliography of his work lists eleven formal contacts in which the
audience was made up primarily of agricultural economists. The first came when he
spoke to the annual meeting of the American Farm Economics Association, predecessor
to today’s American Agricultural Economics Association, meeting in St. Louis in the
summer of 1943. At this time, Boulding was 32 years old, he had been in the United
States for 11 years, and he had just joined the faculty at Iowa State College in Ames. He
spoke under the title, “Desirable Changes in the National Economy after the War.”

The article is typical of Boulding. The major theme is disguised by numerous references
to minor parts of economic society, and the commanding use of prose makes one forget
for a moment that Boulding is criticizing everything that his audience stands for. The
upshot of the article is that general economic progress requires resources – especially
labor – to move out of agriculture (food production) and into the production of non-food
goods and services. This move is best accomplished by keeping the returns to
agricultural resources at very low levels. Boulding mentions that the parity-based

2 A near complete bibliography of Boulding’s published work can be found at
http://www.colorado.edu/econ/Kenneth.Boulding/. Most of the papers reviewed here can be
University of Colorado Press, 1971-1975. This is a six volume set that covers Boulding’s most
productive years. An effort is made here to provide detailed citations for each of the articles that is
discussed.

3 Boulding, K.E."Desirable Changes in the National Economy After the War”. Journal of Farm
Economics, 26, 1 (February 1944), 95-100.
policies of that time (the mid-1940s) deny the industrial labor force access to the rewards associated with the scientific advances in agriculture.

The emphasis is quite different from what agricultural economists would usually suggest. Boulding is saying, “Get people out so the whole of society can benefit.” Agricultural economists, then as now, would have suggested that we move people out of the agricultural industry so that those who remain in it can enjoy higher returns to their labor and other resources.

A second paper came in 1947 in the Canadian Journal of Economics and Political Science. The “keep-'em-poor-and-get-'em-out” theme persists, but it is considerably dressed up by references to agricultural progress in antiquity and the importance of agricultural progress to general economic progress during the Dark Ages. This paper also mentions the embarrassment caused by the research activities of public institutions. The problem? The fruits of research find there way to the tables of industrial laborers rather than into the pockets of farmers. Boulding's recommendation is for the agricultural colleges to spend more time trying to improve the mobility of labor out of agriculture. This theme recurs in later papers.

One of the most puzzling articles relating to agriculture came in 1955 after Boulding had moved from Ames to the University of Michigan. For whatever reason, he chose the campus newspaper, The Michigan Daily, for 30 column inches under the title, “Parity, Charity, and Clarity: Ten Theses on Agricultural Policy.” The ten theses likely reflect Boulding’s dispositions regarding agricultural policy in the Republican and Ezra Taft Benson era of the mid-1950s. Here they are:

1. Human resources need to leave agriculture

2. Wage differentials between agricultural and non-agricultural industries will be needed to effect the move
3. Rural/Urban social and cultural differences have disappeared so income differences will be needed to make people leave agriculture
4. Rural poverty is an artifact of small farms. Large farmers are well-off
5. People problems cannot be eliminated by high commodity prices
6. The sixth reason is not a reason at all. Rather, it is a simple definition and brief history of parity as that term is used in agricultural policy.
7. Agricultural production stays up during a depression
8. High prices lead to surpluses
9. Support should go to income rather than commodity prices
10. A full employment policy is better than a commodity policy.

I will not argue about the ten “theses,” but I continue to wonder why the article appeared where it did and when it did.

Later in the 1950s – in 1957 and again in 1958 – Boulding spoke before the Joint Economic Committee of the U.S.Congress, first on the absence of monopoly power in agriculture and then on the relationship between agricultural policy and growth and stability in the general economy. The former of these documents is available and somewhat predictable. I was unable to secure a copy of the second, but its title fits with the things that had been said somewhat earlier.

In 1963, Boulding talked to a conference sponsored by the Center for Agricultural and Economic Development in Ames, Iowa. His paper, “Agricultural Organizations and Policies: A Personal Evaluation.” was much more aggressive than usual, and it included the same notions about keeping agriculture poor in order to insure that people would

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7 Some confusion surrounds this “paper.” It may be nothing more than a three page introduction to the entire volume published by the Joint Economic Committee and mentioned in the previous note.
leave.\textsuperscript{8} The recommendations may be a bit contradictory to some readers. They include (but are not limited to) the following

1. Profitable agriculture leads to social decay
2. Policy must do a great injustice to agriculture in order to get people to move
3. Don’t use coercion -- use incentives
4. Do away with the USDA because it provides a special interest group for an industry that doesn’t need one

The great contribution of this article, though, comes at the very end when Boulding passes out grades (A’s, B’s, C’s, and D’s) to various ag-related institutions. Each institution is graded with respect to its positions and effectiveness when it considers resource allocation, income distribution, and economic growth. The grades are not charitable, ranging as they do from “D” (allocation on the part of USDA) to four “A’s” for growth (The United States, The Farm Bureau, the USDA, and Universities including their Extension Services.)\textsuperscript{9}

In 1964, Boulding spoke to the old “WAERC Water Committee” – a committee of highly regarded economists from the Western Land Grant Schools who had each devoted a significant part of their career to the study of water problems in the West. Wantrup, Kelso, Castle, Stewart, Gardner, and others were members of the committee. The paper, “The Economist and the Engineer: Economic Dynamics of Water Resource Development”\textsuperscript{10} is an excellent summary of the problems that beset engineers and economists as the two professions worked apart and worked together to develop the nation’s surface waters. The opening paragraphs of the piece include some of the best

\textsuperscript{9} This paper is available in the ISUP book, \textit{Farm Goals in Conflict} – 1963. Members of the audience must have seen the great humor in the piece, but it was not proper to laugh in the setting in which the paper was given. Boulding seemed to enjoy himself greatly while he passed out the grades.
examples of opportunity cost that appear anywhere in the literature of economics.
Boulding does not talk down to the engineers. Indeed, he suggest that if he has to live
downstream from a dam, he would rather it be built by an engineer than by an economist!
All things taken, though, in this instance Boulding simply uses his amazing command of
the language, the literature, and of economics to restate a number of well-known
problems that beset the economics of surface water development.

Boulding appeared under Farm Foundation sponsorship at two public policy conferences
Learning Process” is a masterful work that actually says something nice about agriculture
– Boulding himself notes this and adds “it's about time.”
Two themes dominate. The
first centers on the importance of intergenerational transfers of information; the second
on the importance of releasing resources from agriculture to do other things. Boulding
makes a reasonable point when he suggests that huge investments in agricultural research
are no longer needed because there are no longer large numbers of resources that can be
driven out of agriculture and into the non-farm economy. Perhaps if Boulding were
writing today, he would direct his notions regarding how disequilibrium leads to growth
toward the public sector or to the industrial sector, focusing on either as a potential source
of the resources needed for further growth.

The 1974 article, “ECON is a Four Letter Word,” is a disappointment. It falls into the
category of being “cute” without having a significant message. If anything, it seems to
advise an audience of non-economists that there is more to economics than what first
appears. My inclination is to applaud the notion but the style is not quite right.

In 1978, Kenneth Boulding was invited to the Department of Agricultural Economics at
Purdue University to present the Fourth Annual James C. Snyder Lecture in agricultural
economics. Boulding chose the title, “Normative Science and Agricultural Policy.” The

12 ______________ . “ECON is a Four Letter Word,” Farm Foundation, Increasing Understanding of
Public Policies and Programs Chicago, 1974 pp 137-146.
paper was apparently made available as a pamphlet, but I could not find a copy nor could I find references to the paper in any other source. This is unfortunate because the title shows great promise as an addition to the literature of our discipline.

The final appearance that Boulding made before an audience of agricultural economists was at the Annual Meeting of the AAEA held at Clemson University in 1981. Here, the talk was entitled “Agricultural Economics in Evolutionary Perspective.” This paper, more than the others, shows the breadth of Boulding’s interests and the depth of his concern. He uses examples from the life sciences to make points about evolutionary changes in society and in the social sciences. The first pages are used to define and elaborate the notion of equilibrium and the idea that any change opens a “niche” that the organism or the institution or the state tries to fill. Boulding uses these ideas to comment on economics.

His comments are based in Classical thought, and he provides a quick run-through of the Classicals and their relationships to our sub-discipline. He strikes hard at the theory of production as used by agricultural economists then calls on us to pay more attention to the processes by which the factors of production are used to fill the niches left by scientific advance and invention. This article, more than any of the others, suggests that agriculture is an important part of evolution. If you read one Boulding article from the collection of papers that were given to audiences of agricultural economists, this is the one you should read.

Now move to a brief discussion of Boulding’s contribution to environmental economics. I will give this part of my remarks a bit different slant than some others in the profession might use, but this is the way that I see the matter at hand.

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Boulding’s first professional paper was published in *The Economic Journal* in 1932. He was 20 years old and the paper dealt with the heady problem of displacement costs.\(^{14}\) From then through the 1930s, he published more items about peace and religion than he did about economics. However, the few economics-related pieces that did appear were powerfully written and well placed, and he always managed to review important books for the leading journals. One suspects that this was a time during which Boulding struggled with choices over which route he should take in his career.

Boulding recounts that in his years as an undergraduate at Oxford, he was asked to read a part of an accounting book, *Accounting Theory*, by W.A. Paton.\(^{15}\) I read parts of this book, and to an untrained eye, there seems to be nothing unusual or commanding about it. It looks like what it is: a 1922 text that provides an introduction to accounting. Regardless of what it is, it had an impact on the young Boulding. He was fascinated by the fact that accounting is a systematic way of keeping track of a stock of assets. This notion came to a head when, in 1950, Boulding published *A Reconstruction of Economics*.\(^{16}\) This is a complex book that is not suitable for bedtime reading. It casts all usual economic variables in terms of assets and it argues that individuals and firms struggle to maximize the value of the assets that they control. The book argues that the profession's adherence to themes related to flows and to the maximization of short term profits should give way to consideration of a stock of assets. Put another way, economic theory should be based on stocks rather than flows.

The book was so complex that in 1956 -- six years after its publication -- a conference was called to discuss the meaning of the book. Boulding himself wrote a 60 page commentary entitled “Economic Theory: The Reconstruction Reconstructed.” The conference perhaps helped many economists to understand what Boulding’s “new economics” was all about, but the book was not a major success, and from time to time in


\(^{15}\) Paton, W.A. *Accounting Theory with Special Reference to the Corporate Enterprise*, New York: The Roland Press Co., 1922.

later years, Boulding lamented his failure to alter the path of economic science and inquiry.

[Note: Boulding’s principles book, Economic Analysis (New York: Harper Brothers, 1941 and subsequent years) was published in 1941. It did not provide the success that Boulding had anticipated, partly because of the widespread adoption of Samuelson’s text a few years later. Boulding mentions the modest success of the text in many of his later writings. The comments are unmistakable: Boulding thought that his own book was superior to Samuelson's. It may have been. In my own career as a classroom teacher, I frequently went back to Boulding's book to brush up on a theory or a concept. Going back to any of the many editions of Samuelson did not occur to me as being fruitful for this purpose.]

The stock-of-assets notion raised its head again in the mid-1960s when Boulding wrote and presented his most famous article related to environmental themes. “The Economics of the Coming Spaceship Earth” was delivered at a conference held at Washington State University and later published by Resources for the Future. The article is neither long nor short. It begins the way so many of Boulding's articles begin: With lessons and recollections regarding the history and literature from earlier ages. When it turns to the present and to the future, it becomes packed with ideas and notions that sometimes require substantial thought. The main theme suggests that earth is an ecosystem best represented as a stock from the view of humans. The stock can be preserved or it can be consumed. The task for environmentalists and environmentalism is to find ways to prevent depletion of the stock. Boulding suggests that information in whatever form is the most essential attribute among environmentalists and economists. He pays obeisance to homeostasis, entropy, and discounting, but the message related to stocks of assets always comes back: we have this stock of assets that we call the environment and we must choose whether we are willing to use it all for our own enjoyment or protect it in such a way as to make it available for our children and their children. He comes down on the side of maintaining the stock. This leads to numerous insights regarding the character of the stock and the kinds of problems that might occur in attempting to maintain it.

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Boulding was writing at a time when the environment was being sullied by individual, group, and corporate actions. Parts of the world environment have recovered somewhat since that time (Lake Erie is not so polluted, the air near Los Angeles may carry less smog, and the Spotted Owl is off the ESL). Even so, Boulding's spaceship is still a dominant metaphor, if not the dominant metaphor, in the numerous liturgies sung and said in defense of the environment.

Boulding maintained his interest in environmental themes. He spoke of the environment in many subsequent speeches, papers, and lectures, but his main theme remained true to the principles and observations presented in Spaceship and that theme almost always hearkens back to The Reconstruction and notions regarding a stock of assets.

So where and how do we end this? It could go on and on, but the concern here is with Boulding's offerings as he interacted with agricultural economists and his contributions to the dawning of our scientific interests in environmental themes. Each task has been presented in very brief form, so let me end with a handful of comments -- sometimes unrelated -- on these aspects of Boulding’s work:

1. Boulding was an incomparable genius who was fascinated by economics but who went well beyond the discipline in his efforts to bring about an integrated social science

2. He had little truck with agricultural economist and always viewed agriculture as a source of resources for general economic development.

3. His view of agricultural policy differed considerably from that held by agricultural economists: He thought that policy should be directed toward to removing resources from the industry.

4. The man thought in terms of collections of assets.

5. The environment is a collection of assets that must be maintained.

6. It is likely that economics as we practice it today is not broad enough to come to grips with the problems of the world -- environmental or otherwise. And in large regard, this was always Boulding’s overarching point.