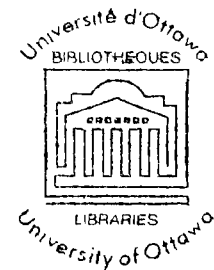


**Ethics and Sustainable Development:  
An Application of Bernard Lonergan's Genetic Method**

by

© Paul David Lewis



**A dissertation submitted to the Faculty of Theology,  
Saint Paul University, in partial fulfillment of the  
requirements for the degree of Doctor of Philosophy  
in Theology, Ottawa, Canada.**

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An explorer may ascend many a valley, and sometimes climb rather high, only to discover there is no pass that way through the mountains, that he or she must descend and try another way.

Frederick E. Crowe, S.J.

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And finally, I wish to dedicate this book to my wife and children for those intimate reasons that all families know.

## PREFACE

This journey began with a single dramatic instance. Several years ago, I was standing in the reception hall of the World Bank in Washington. We were there to talk about sustainable development in the Caribbean. I was surrounded by prime ministers, not-so secret agents, representatives from NGO's, and international bankers. I was also surrounded by fine champagne, Russian caviar, mountains of cracked lobster, endless trays of hors-d'oeuvre and canapés.

It seemed to me that we were looking for fool's gold. As environmentalist Paul Hawken quipped, the dirtiest secret of the environmentalist movement is that there is no such thing as sustainable development (Ecology of Commerce).

I found this otherwise discouraging insight quite liberating. In this strange feeling of liberation I discovered a clue. Images of heaps of caviar, gallons of champagne, the opulence of the setting was juxtaposed with the morbid scenes of social and environmental decay to be found in the fancy brochures on the display table. This tension evoked a very loaded question; What is the immanent reason for development's unsustainability? It seemed from our fancy reception that the will was lacking even if the means remained quite sophisticated. I wondered what I, as a theologian, could say about this curious paralysis of the will in the midst of such tremendous possibility.

The following thesis is under-pinned by the idea that economic transformation requires a complimentary and concomitant transformation of the

subject. I sought to understand how limitations to sustainable development and intrinsic restrictions to human liberation could be related. If there is one unique thing theology can do, it can give a theoretical account for subjective transformation and limitations to it. That is to say, one of theology's unique roles is its capacity to talk about conversion, sin, and the problem of evil. I thought that if we could somehow link subjective transformation to economic transformation, if we could show how the failure to sustain development, and the failure of the will to do the intelligent thing could be conceptually connected using these theological notions then the result would be a thoroughly unique theological account of the ambiguity of economic development.

I turned to the work of Bernard Lonergan for assistance in forging the linkages. From the outset, I knew that this thesis was not directly about economics, nor was it about economic development. It was about the transformation of understanding. It was about how our understanding of so-called 'economic development' can evolve. In short I was trying to reclassify our common sense notions. I wanted to move away from the notion that economic development is the creation of some meta-economy or super-market. The major tool I brought to bear on this facet of my exploration was Lonergan's genetic method.

Taking Einstein's advice to heart, I decided not to talk about development in terms of what people say, but in terms of what they do. Thus the examination of how we understand the good of human collaboration started from a look at the kinds of intricate structures or systems we set up in the name of human industry. It led to a discussion of why we might think that the erection of such structures is a bright idea, and what we hope to achieve by doing so. In terms of Lonergan's language, I started by thinking about the goods of order, the objects

of rational choice they bring into being, and the desires that such projects might satisfy.

What I discovered was really exciting. When you read people like Xenophon, Aristotle, the medieval scholastics who talk about usury, the classical economists who talk about markets, the neoclassical economists who talk about economic systems, you catch a glimpse of something very interesting going forward. At a first level it seems that we have often understood human industry in terms of markets, wherein exchange elicits all sort of goods and services that contributed greatly to our welfare, or standard of living. But it occurred to many writers surprisingly early on that there was more to it than that. They noticed that we also profited from exchange, and that the profits were the fruits not of the exchanges per se, but of the concomitant circulation of money. Thus we discovered a second level to what was going on with human industry. Most recently, it has occurred to many that exchange of stuff and the circulation of cash don't occur in a vacuum. That is to say, many would argue that it is intellectually and even morally reprehensible to consider markets and economies outside of their context. So that, being stated in simple terms, is how I arrived at defining three distinct forms of human industry and the threefold kinds of associated goods and common sense versions of development.

What was one to make of these historical trends in our thinking about human industry? Again I appealed to Lonergan for help. His account of development explains how a system can actually provoke the emergence of a higher-ordered system. This gave me an idea. I thought that perhaps something about carrying on human industry with all the assumptions that survive at each level actually gives rise to a new more nuanced and comprehensive understanding of that activity. For instance, I asked, Is there something about operating our affairs as if they involve markets that gives rise to our



understanding of human industry as an economy? Furthermore, Is there something about operating our affairs as if they involve economies that gives rise to our understanding of human industry as ecological?

These are the kinds of questions which resulted in my account of the emergence of higher viewpoints. This was my account of the real meaning of development. While the dissertation avoids working out the implications of this approach, it is not hard to see how some of them fit well with more recent findings in ecological economics. Development is not simply more of the same thing; it is not the accumulation of more stuff; it is not reaping bigger profits; it is not reclaiming the virginity of some supposedly raped landscape.

Development is a movement, as it where, of the human mind; it is predicated in the subject not the object. So my last task was to understand how development proceeded from the subject. I introduced the long-standing theological notion of metanoia. The final link was forged. If real development is intrinsically restricted, the source of restriction is not some problem with what's out there, but with me, you, us. Call it what you want, oversight, stupidity, sin, psychosis, neurosis, social breakdown or what have you. The limitations of development are in large part the manifestation of restrictions to liberation; the restriction of and the restricting by our will, our incapacity to do the right thing in the right place, at the right time, for the right reasons. In short, the question of sustainable development is a profoundly ethical question.

This brought the dissertation full circle. The shortcomings of successive theories and practices of economic development, the divergent and conflicting responses, the differences in horizons between communities which demarcate points of collision between disparate interpretations have ultimately as their source the problem of liberation of the subject. Achievement of sustainable

development becomes possible and probable only to the extent that the restriction of liberation is overcome.

And so the central question remains; How are we to overcome the profound problem of human liberation? There are obviously many different kinds of responses to this dilemma. Secular humanists, atheists, pantheists and other religious traditions all have very different ideas about the appropriate action. For the Christian, the solution is of course grace, and so, as a Christian theologian, I explored this as the source of our hope for sustainable development.

## CHAPTER ONE

### WHEN WORLDS COLLIDE

In 1985, Greenpeace decided to sail their vessel *Rainbow Warrior* into restricted waters where France was planning to conduct nuclear weapons testing. The French government sent intelligence agents with false passports into New Zealand in order to sink the *Rainbow Warrior*. A crew member aboard the ship at the time of the sabotage was killed in the sinking. If we have learned anything from this incident it is that worlds collide often with terrible results.

#### 1.1. Curriculum Inexorabilis

A brief historical overview of economic development theory will demonstrate that relentless economic development has been desired for quite some time. For the purposes of this overview, I shall classify economic development theory into five historically emergent categories: 1) classical theories (pre 1914); 2) postwar neo-classical theories, 3) macro-modeling theories; and 4) new theories (since 1980).<sup>1</sup>

##### 1.1.1 *Classical Expansionism*

Classical theorists are well-known. Adam Smith (1723-1790), Robert Malthus (1766-1834), David Ricardo (1772-1823), and John Stuart Mill (1806-1873)

---

<sup>1</sup>Development economist Ozay Mehmet provides an excellent historical overview of development theory. I have relied heavily on his work throughout this subsection. See Ozay Mehmet, Westernizing the Third World: The Eurocentricity of Economic Development Theories (New York: Routledge, 1995).

are among the most noteworthy contributors. In general, they saw economic development in terms of increased opulence or wealth accumulation, and they understood growth of output as the means to this end.<sup>2</sup>

Practically all major classical development theories were born out of pessimism. These men were the "prophets of doom, fearful of the ultimate demise of capitalism due (to put it in Schumpeterian terms) to expanding capital stock against the backdrop of vanishing investment opportunities."<sup>3</sup> For instance Ricardo feared that profits would vanish under the circumstances of population expansion, a fixed amount of land, and reduced trade and technological expansion. Both Mill and Ricardo believed these problems to be linked to an eventual 'stationary state' of economic stagnation. Malthus worried that population growth would be geometric while the means of subsistence would grow only arithmetically. He predicted that this would result in a lowering of wages below subsistence level (because there would be more workers than available work), a reduction in food supply (because of the lack of availability of land and natural resources). Thus starvation, epidemics, and war would erupt. Eventually, however, this would clear the market so to speak, once the food-population balance was restored by the ensuing die-off.<sup>4</sup> Smith's solution to the problem of stagnation was a vent-for-surplus theory in which surpluses would be exported to foreign markets thereby increasing national income with exchange earnings. Mills' solution was also to expand markets beyond the borders of the

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<sup>2</sup>J E Meade, A Neo-Classical Theory of Economic Growth, 2d ed , (London: Unwin, 1962) , Walter Eltis, The Classical Theory of Economic Growth (London: Macmillan, 1987)

<sup>3</sup>Mehmet, Westernizing the Third World, 31

<sup>4</sup>As Mehmet says, Malthusian population-food dynamics represents a pioneering example of supply-side economics, even perhaps a labour market theory. *Ibid* , 38

nation Ricardo offered a more refined explanation of expansionism, arguing for a kind of free trade in his Comparative Advantage Theory <sup>5</sup>

What the classical theorists feared was limited expansion of markets, and limited growth in profits brought on by over population and the exhaustion of scarce resources. The proposed solutions were to increase trade with other nations and increase acquisition of land and resources through colonization.

### 1.1.2 *Neo-Classical Capital Growth Machines*

In light of the aftermath of the Great War and the Great Depression, there was an optimism that development economics - understood still as the process of growth in opulence - would solve all problems of underdevelopment and the anomalies experienced during the Depression <sup>6</sup>. The new engineers of development still understood economic development as capital accumulation, but postwar neo-classical theorizing was marked by a decidedly mechanical tendency to model economic development as a systematic, linear, homogenized process. Economic development was cast as "a technocratic task of grand designs, simultaneous equations, balanced growth, all plannable with mathematical precision" <sup>7</sup>. There was much emphasis not just on growth but also on social planning, and the attraction by the Third World to this quasi-scientific

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<sup>5</sup>The theory of comparative advantage stems from inter industry productivity differences. Even if a state could be self sufficient in the production of commodities, even if it had an absolute advantage over another country (i.e. it could out produce that country in any of the same products per unit of labour) it would be inefficient to do so because of the marginal opportunity cost to so. Let us modify Ricardo's example

Table: Output of one man year's labour

| Product    | England | Portugal |
|------------|---------|----------|
| Cloth(yds) | 12      | 6        |
| Wine(gals) | 4       | 3        |

England has an absolute advantage over Portugal in both cloth and wine production. But so long as England can import a gallon of Portuguese wine at a cost of less than three yards of its cloth, and Portugal can import more than two yards of English cloth for a gallon of its wine, both would have a comparative advantage of 3:1 and 2:1 respectively.

<sup>6</sup>Mehmet, *Westernizing the Third World*, 56

<sup>7</sup>*Ibid*, 56. See Gerald M. Meier, ed., *Leading Issues in Economic Development*, 3d ed., (New York: Oxford University Press, 1976)

approach to economic development is undeniable. For instance, India's Nehru declared:

Planning and development have become a sort of mathematical problem which may be worked out scientifically. Planning for industrial development is generally accepted as a matter of mathematical formula. Men of science, planners, experts, who approach our problem from purely a scientific point of view rather than an ideological one . . . agree, broadly, that given certain pre-conditions of development, industrialization and all that, certain exact conclusions follow almost as a matter of course<sup>8</sup>

Of course, the central architect of this movement was John Maynard Keynes.<sup>9</sup> It is not an exaggeration to say that Keynes instigated what may be called the Golden Age of macro-economic modeling (1950-1970). "During this period, Keynesian disciples pioneered the extension and application of macro-modeling to the Third World which ultimately evolved into the national accounting system adopted by the World Bank and the United Nations."<sup>10</sup>

Macro-modeling was envisioned as a solution to the problem of the vicious cycles of poverty and overpopulation. It was maintained that when population exceeded aggregate income, there would be a drop in the standard of living. Consequently, by controlling population, the standard of living could be controlled, allowing for greater per capita income of the aggregate income (See Figure 1-1).

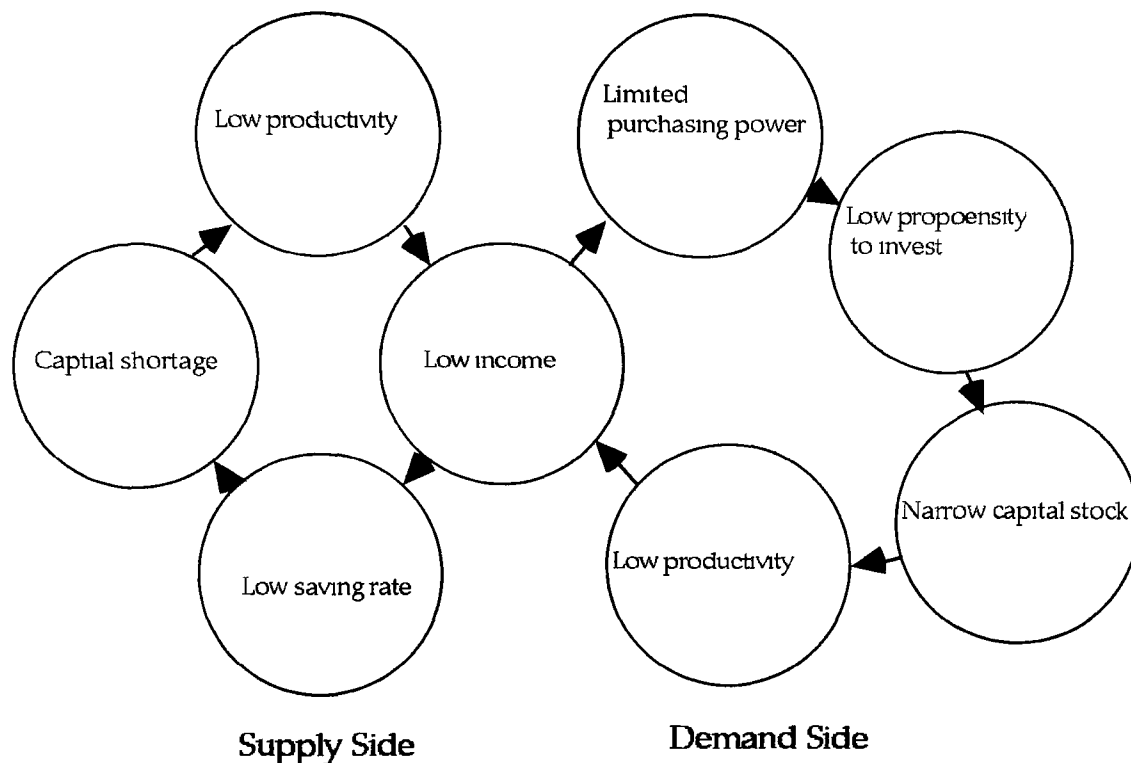
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<sup>8</sup>Charles Lindblom, Politics and Markets: The World's Political-Economic Systems (New York Basic, 1977), 318

<sup>9</sup>See John Maynard Keynes, The General Theory of Employment Interest and Money (London MacMillan, 1936, reprint, London MacMillan, 1970), (page references are to reprint edition) It was the 1930's depression and Keynesian economics that obliged economists to retreat from their insistence on the iron laws of economics. See Bernard J F Lonergan, Method in Theology (Great Britain Darton Longman & Todd Ltd, 1972, reprint, Toronto University of Toronto Press, 1990), 280, 315 (page references are to reprint edition) What was sought by macro-economic modeling was not a return to a mechanistic model of human economic activity, but the development of some means to control its non-systematic tendencies

<sup>10</sup>Mehmet, Westernizing the Third World, 60. Notable theorists of the time include Harrod (1948), Domar (1946), Nurske (1953), Tinbergen (1964, 1967), and Kuznets (1959, 1966)

Figure 1-1 Vicious circles of poverty<sup>11</sup>



To overcome the vicious circles of poverty, Paul Rosenstein-Rodan (1943) introduced the Big Push theory.<sup>12</sup> He argued that industrialization (i.e. increased use of capital per unit of output, especially in manufacturing) would raise incomes in depressed areas at a higher rate than in rich areas, and thereby lead to the achievement of a more equal distribution of income between different areas of the world.<sup>13</sup> The Big Push theory and its spin-offs were pro-capital and 'pro-big!' Large size was justified because of economies of scale and modern technology. A profitable industry would, through the multiplier effect, act as a 'growth pole,' a critical mass, so to speak, resulting in the creation of all sorts of subsidiary development. The Big Push theory gave birth to many variations on a

<sup>11</sup>Ibid , 62

<sup>12</sup>Paul N. Rosenstein-Rodan, "Problems of Industrialization of East and South-Eastern Europe," *Economic Journal* (June-September 1943) . 202-211

<sup>13</sup>Mehmet, *Westernizing the Third World*, 64

theme, the theme being the neoclassical belief that capital growth, in some form or another, was at the heart of economic development.<sup>14</sup>

The neoclassical models were still thorough-going growth models that advocated systematic expansion of markets and urbanization through the appropriation of vast sources of inputs.<sup>15</sup> Although the neoclassical economist was confronted with the same old potential limitations of over-population and the exhaustion of scarce resources, such problems were now regarded as symptomatic of a malfunctioning machine. The problem of poverty was a vicious cycle to be broken. The remedy was redistribution of the fruits of economic endeavor through the inexorable industrialization of civilizations everywhere. In essence, the economy was to be treated like a closed system, and anything that could not come under the grasp of its laws and predictions was to be considered extraneous.

### 1.1.3 *The Virtual Reality of Macro-Modeling*

By the second half of the 1960s, empirical evidence demonstrated that development theory was not working. The malfunction of the trickle-down approach to the Third World resulted in 1) rural exodus and urban squalor, 2) increasing unemployment, 3) increasing poverty and social injustice, and 4) increasing gender bias.<sup>16</sup> As things became more and more unglued, the response

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<sup>14</sup>For example, Rostow came up with his stages-of-growth- theory. See W W Rostow, The Stages of Economic Growth: A Non-Communist Manifesto (Cambridge: Cambridge University Press, 1960) , The chief critic of balanced growth was Albert Hirschman. He argued for a chain of disequilibria as the source of industrial growth. See Albert Hirschman, The Strategy of Economic Development (New Haven, Connecticut: Yale University Press, 1958). Arthur Lewis advocated an anti rural, pro-capital theory. See Arthur Lewis, The Theory of Economic Growth (London: Unwin, 1955). Import substitution industrialization strategies (ISI) advocated that the state actively nurture and protect infant new industries. Pioneers in this area were Raoul Prebisch, "Commercial Policy in the Underdeveloped Countries," American Economic Review Papers and Proceedings (May 1959) 251-273 , and Hans Singer, "The Distribution of Gains Between Investing and Borrowing Countries," American Economic Review (May 1950) 473-485.

<sup>15</sup>Mehmet, Westernizing the Third World, 64, 85ff

<sup>16</sup>Ibid. , 86



was to institute more and more mechanical and structural compensations.

"Economic development came to be viewed as a process of planning by targets and instruments."<sup>17</sup> Abstract models, sophisticated input-output tables, general equilibrium and linear programming models were typically formulated as if perfect competition and self-maximization of utility were facts of life.<sup>18</sup> Thus dawned the age of macro-modeling. Two general models dominated the times. The Harrod-Domar model sought to determine rates of income growth necessary for smooth economic development.<sup>19</sup> It was built on the premise that the sole constraint in economic development was capital, or the lack thereof.<sup>20</sup> The Two-Gap Theory held that domestic savings may limit growth in early stages of development, therefore, it was used to adjust pricing policies (e.g. exchange rates, tax incentives, interest rate control) in an attempt to influence consumption and investment expenditures, aggregate income, and expenditures on imports and exports.<sup>21</sup> This model was based on the assumption that there was a positive correlation between aid and development. This assumption was later questioned empirically, especially because foreign aid seemed to displace domestic savings and encourage conspicuous and superfluous consumption.<sup>22</sup> In short, all the macro-economic models had disappointing results. "Western mainstream economists, unable or unwilling to divorce themselves from ideal markets, have

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<sup>17</sup>Ibid , 92

<sup>18</sup>Ibid , 93

<sup>19</sup>R.F. Harrod, "An Essay in Dynamic Theory," Economic Journal 49 (1939) 13-33 , R.F. Harrod, Toward A Dynamic Economics (New York: St. Martin's Press, 1948) , E.D. Domar, "Capital Expansion, Rate of Growth and Employment," Econometrica (April, 1946) 137-147 , E.D. Domar, "Expansion and Employment," American Economic Review (March 1947) 34-55

<sup>20</sup>Mehmet, Westernizing the Third World, 97

<sup>21</sup>Hollis Chenery and M. Bruno, "Development Alternatives in An Open Economy: The Case of Israel," Economic Journal 72 (1962) 79-103 , Hollis Chenery and A.M. Strout "Foreign Assistance and Economic Development," American Economic Review (September 1966) 418-437

<sup>22</sup>Keith Griffin and J.L. Enos, "Foreign Assistance: Objectives and Consequences," Economic Development and Cultural Change (April 1979)

put abstraction before reality. Where facts did not exist, they simply manufactured them by presumption."<sup>23</sup>

It seems that we had become obsessed with inventing a surreal system of economic development. In the world of advanced econometric modeling, it may be fairly said that we had entered the world of virtual reality. Jane Jacobs has summed it up.

One thing we do know by now because events have rubbed our faces in it: it would be rash to suppose that macro-economics, as it stands today, has useful guidance for us. Several centuries of hard, ingenious thought about supply and demand chasing each other around, tails in their mouths, have told us almost nothing about the rise and decline of wealth. Choosing among the existing schools of thought is bootless. We are on our own.<sup>24</sup>

By the 1980's, if we had not yet created a perfect world of economic development, it was surely not for the lack of dreaming about it. But as we approached this decade, it became frightening clear that our dreaming had brought to life some very real nightmares.

#### 1.1.4 *The New Engineers of Social Perfection*

It has been taken for granted in mainstream economic development theorizing that the state would be the vehicle for economic development and that any problems with under-development were essentially problems of the economy and not the state *per se*.<sup>25</sup> Now, however, many economists are more apt to concede that answers to the problem of under-development may indeed lie outside economics.<sup>26</sup> The politics of economic development has become a new paradigm. From this perspective, 'government failure' has been substituted for

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<sup>23</sup> Mehmet, Westernizing the Third World, 106.

<sup>24</sup> Jane Jacobs, Cities and the Wealth of Nations: Principles of Economic Life (New York: Random House, 1984; reprint, New York: Vintage Books, 1985), 28 (page references are to the reprint edition).

<sup>25</sup> Mehmet, Westernizing the Third World, 115.

<sup>26</sup> *Ibid.*, 116.

the postwar notion of 'market failure' and states are classified and differentiated according to how their policies and strategies enable or constrain economic development, especially with regards to such emerging issues as human rights and democratization.<sup>27</sup> From this viewpoint, economic development is seen as a process induced by institutional efficiency. The institutionalists in general believe that changing formal institutions can change political practice and thereby have an impact on economic development.<sup>28</sup> Such is the approach of the so-called new institutionalism.

Another political approach, structural adjustment theory, envisions a set of policy steps that try to bring about permanent change in prices and try to reallocate resources in accordance with internal and external domestic circumstances. It is a solidly neoclassical, laissez-faire, free-trade approach strongly endorsed by the IMF and World Bank.<sup>29</sup> It has been criticized because the IMF-WB have made drastic restructuring a condition for structural adjustment lending (SAL) to Third World Countries.<sup>30</sup> It is argued that in effect

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<sup>27</sup>P. Bradhan, et al., "Symposium on the State and Economic Development," Journal of Economic Perspectives, 3 (Summer 1990) 3-7, S. Haggard and C. Moon, "Institutions and Economic Policy Theory and A Korean Case Study," World Politics 42 (January 1990) 210-237, R.F. Doner, "Approaches to the Politics of Economic Growth in Southeast Asia," Journal of Asian Studies 4 (1991) 818-849.

<sup>28</sup>Robert D. Putnam, et al., Making Democracy Work: Civic Traditions in Modern Italy (Princeton N.J.: Princeton University Press, 1993) 184. There are three major versions of the new institutionalism. The 'predatory state theory,' holds that states have comparative advantages in violence, and therefore can trade services (e.g. protection) for taxation revenue. The pioneer of this theory is Douglas North, Structure and Change in Economic History (New York: W.W. Norton, 1981). An extension of this approach is the 'property rights theory' which argues that successful agricultural development requires laws that regulate property rights to clear titles. But at the root of these two is the 'public choice theory' that regards the political process as a game in which actors pursue conflicting interests, the objective is for groups to arrange institutional structures to obtain group-specific favourable outcomes. See J.M. Buchanan, et al., eds., Toward a Theory of Rent Seeking Society (College Station, Texas: A&M University Press, 1980).

<sup>29</sup>Deepak Lal, The Poverty of Development Economics (Cambridge, MA: Harvard University Press, 1984).

<sup>30</sup>J.D. Sachs, "Trade and Exchange Rate Policies in Growth Oriented Adjustment Programs," in Growth Oriented Adjustment Programs, eds. V. Crobo and others, (Washington, D.C.: IMF and World Bank, 1987), 291-325.

the IMF-WB have become credit-rating institutions, with a bias that favours capital-intensive projects over social projects. Some feel that inadequate attention is given to fundamental causes of external imbalances and budget deficits.<sup>31</sup>

Yet another recent trend has been to consider growth in terms of human capital formation.<sup>32</sup> Here there is heavy investment in schooling, training, education for skill, and entrepreneurial development. While this approach has met with a certain level of success in the First World, the results in the Third world have been less promising simply because per capita allocations toward human capital formation were far outstripped by the demand for such resources. Furthermore, as a result of structural adjustment lending (SAL), education has often been privatized with resulting introduction of user fees, limitation of access to training, education and R&D. Restrictions occur exactly at the points where they are tolerated least.<sup>33</sup>

New theories of institutionalism, structural adjustment, and human capital formation represent further attempts to identify and rectify reversals and setbacks along the road toward inexorable development. Whereas macro-economic modeling sought to make systematic the functional aspects of the economy, newer theories have tended to focus on the levels of social organization and development of the individual in society.

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<sup>31</sup>Mehmet, Westernizing the Third World, 119. World Bank and IMF prescriptions have been criticized for ignoring the human suffering wrought by its structural adjustment strategies. See A. Cornia, R. Jolly and F. Stewart, Adjustment With a Human Face: Protecting the Vulnerable and Promoting Growth; A Study by UNICEF vol. 1 (Oxford: Clarendon Press, 1986), Michael Lipton, "Requiem for Adjustment Lending?," Development Policy Review 4 (1990): 437-443.

<sup>32</sup>T. Schultz, "Investment in Human Capital," American Economic Review (March 1961): 1-17.

<sup>33</sup>Mehmet, Westernizing the Third World, 127.

### 1.1.5 *Summary*

From this brief review, we can see that, until recently, the quest for relentless economic development has emerged more precisely as the doctrine of inexorable economic growth and market expansion.

But we have become worried. The classical theorists' problems of poverty, exhaustion of scarce resources, contraction of markets, and loss of profits are still with us. Attempts to increase trade, alleviate pressure through colonial expansion, prime the pumps, fine-tune the machinery, adjust the structures, and institutionalize change have done little to guaranteed relentless economic growth or market expansion.

Quite astoundingly, despite mounting frustrations and accumulating evidence to the contrary, we have not become discouraged. We still hope for an enduring kind of economic development. Behind everyone of these major versions of human economic development there remains the curious assumption that economic development ought to be inexorable in the long run.

## 1.2. Limitations

Sooner or later, when an historically emergent pattern of recurrent and related operations continuously fails to get the desired cumulative and progressive results expected, we begin to question not only our methods, but our expectations. And so it is that we have come to question not only our methods for obtaining inexorable economic development, but our assumption that such development ought to be relentless in the first place. The turn toward expectations has given rise to the question of sustainability. Can we expect sustained economic development?

### 1.2.1 *Resource Scarcity*

The doctrine of inexorable economic growth and market expansion has given rise to the very concrete problem of resource scarcity. Cast as the problem of optimal stock resources depletion, it became a formal topic of discussion by the 1930's. By now there is an extensive literature in this field.<sup>34</sup> Analysis of resource depletion has demonstrated the shortcomings of some mainstream economic assumptions about the cost of resource consumption. For example, it has been found that many economic models which show declining dollar costs for resource extraction often mask significant increases in energy costs per unit of output. Take increased scarcity in the fossil fuel sector, the decline in the quality of non-fuel resources has a positive feedback effect on fossil fuel scarcity. The deeper we have to dig for ores of poorer and poorer quality, the faster we use up fossil fuels in the process. There is an accelerating consumption of fossil fuels required for the ever more difficult extraction of ever decreasing quality resources.<sup>35</sup> As economic growth is pursued, not only do we need more stocks of resources, but we need them at an accelerated rate by virtue of their very depletion!

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<sup>34</sup>The seminal article is thought by many to be Harold Hotelling, "The Economics of Exhaustible Resources," Journal of Political Economy 39 (1931) 132-175

<sup>35</sup>Cutler J. Cleveland has done significant work in this area. See Cutler J. Cleveland, "Natural Resource Scarcity and Economic Growth Revisited: Economic and Biophysical Perspectives," in Ecological Economics: The Science and Management of Sustainability, ed. Robert Costanza (New York: Columbia University Press, 1991), 289-317. See also Cutler J. Cleveland, "Energy Quality and Energy Surplus in the Extraction of Fossil Fuels in the U.S.," Ecological Economics 6 (October, 1992) 139-62; Cutler J. Cleveland, "An Exploration of Alternative Measures of Natural Resource Scarcity: The Case of Petroleum Resources in the U.S.," Ecological Economics 7 (April 1993) 123-57; Cutler J. Cleveland and David I. Stern, "The Scarcity of Forest Products Revisited: An Empirical Comparison of Indicators," Canadian Journal of Forest Research 23 (1993) 1537-1549. It has been argued that environmental problems do affect social stability, and do give rise to social conflict. See Thomas F. Homer-Dixon, Jeffery H. Boutwell, and George W. Rathjens, "Environmental Change and Violent Conflict," Scientific American 268 (February 1993) 38-45.

The fact of resource depletion raises a major question. If sustainable development relies on sustainable resource consumption and such consumption is physically limited, then is sustainable economic development limited too?

### 1.2.2 *Environmental Degradation*

More recently there has been concern not only over the depletion of resource stocks, but over the degradation in the assimilative and regenerative capacity of the environment which provides such stocks.<sup>36</sup> The literature on the so-called environmental crisis is vast and quite familiar. Indeed, it is hard to find a text or essay on sustainable development that does not begin with a litany of sins against the environment.<sup>37</sup>

On the other hand, not everyone agrees with this dismal picture. One author warns of the fallacy of such gloomy Malthusian presentiments.

Many forecasts of an ecological crisis are based on nothing more than the projection of present trends onto the future. . .

. . . the distinction between a prediction and a projection is of the utmost importance. . . "38

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<sup>36</sup>Neva Goodwin, ed., *Frontier Issues in Economic Thought* (Washington D.C.: Island Press, 1995), vol. 1, *A Survey of Ecological Economics*, eds., Rajaram, Jonathan M. Harris, and Neva R. Goodwin, 135.

<sup>37</sup>Some examples will suffice. Sharachchandra M. Lélé, "Sustainable Development: A Critical Review," *World Development* 19 (June 1991): 608-610.; Sallie McFague, *The Body of God: An Ecological Theology* (Minneapolis: Fortress Press, 1993), Chapter One.; Shannon Jung, *We Are Home: A Spirituality of the Environment* (New York: Paulist Press, 1993), 10-14.; Robert Goodland, "The Case That the World Has Reached Limits," in *The Transition to Sustainability*, eds. Robert Goodland, Herman E. Daly, and Salah El Serafy (Washington D.C.: Island Press, 1992), 3-22.; Lynn White Jr. "The Historical Roots of Our Ecologic Crisis," *Science* 155 (March 1967): 1203-1207.; J.F. Richards, "World Environmental History and Economic Development," in *Sustainable Development of the Biosphere*, eds. W.C. Clark and R.E. Munn (New York: Cambridge University Press, 1986), 53-74.; For a good historical review of the question of population growth as a crisis, see Paul Harrison, *The Third Revolution: Environment, Population and a Sustainable World*, (London: I.B. Tauris & Co., 1992).

<sup>38</sup>H. J. McCloskey, *Ecological Ethics and Politics* (New Jersey: Rowman and Littlefield, 1983), 11-13.

Edward Walter concurs. He says that no-growth futurists rely on social science forecasting which is in and of itself a dubious exercise.<sup>39</sup>

In any case, a further question is raised. What impact does disruption of the assimilative and regenerative capacity have on our prospects for sustaining economic development?

### 1.2.3 *The Limitations of the Doctrine of Growth*

Denis Goulet notes that the predominant version of economic development has been the growth model

For many economists, development is synonymous with economic growth measured in aggregate terms. Even when they give lip-service to other dimensions in development, many economists continue to subordinate all non-economic factors to the practical requirements of their growth models.<sup>40</sup>

Despite this tendency, the problems of resource depletion and environmental degradation have caused many to reject the doctrine of inexorable economic growth and market expansion. Robert Goodland's argument that economic growth can no longer be the unquestioned objective of economic policy is echoed by others.<sup>41</sup> It is argued that measurement of economic growth (by national accounts such as GNP, GDP, etc.) does not take into account the impact of 'human industry' on the environment, either in economic terms or ecological

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<sup>39</sup>Edward Walter, The Immorality of Limiting Growth (Albany SUNY, 1981) See Chapter Seven Kenneth Boulding is in agreement about the invalidity of such projections See Kenneth Boulding, Economics As A Science (New York McGraw-Hill, 1970) , 113-114

<sup>40</sup>Denis Goulet, The Cruel Choice A New Concept in the Theory of Development (New York Atheneum, 1975) , xiii

<sup>41</sup>Robert Goodland, Herman Daly, Salah El Serafy, and Bernard von Droste, Environmentally Sustainable Economic Development Building on Brundtland (New York UNESCO, 1991) William Nordhaus and James Tobin, "Is Growth Obsolete?, " in Economic Growth, National Bureau of Economic Research General Series, no. 96E (New York Basic, 1972) One only has to peruse any issue of Ecological Economics For example see F E Trainer, "Environmental Significance of Development Theory," Ecological Economics 2 (December 1990) 277-286



terms.<sup>42</sup> These critics demand that our drive for inexorable economic development include better methods of accounting for the environment.<sup>43</sup>

Perhaps there is a more fundamental limitation to the doctrine of growth. While many would base their objections to the doctrine of inexorable growth on a concern for the depletion of resources and/or the degradation of the environment, there are still others who maintain that it is a mistake to assume in the first place that economic growth and the development of well-being are identical.<sup>44</sup> As Herman Daly puts it, economic growth and economic development are not the same.<sup>45</sup>

Despite flagging faith in the growth model, there are still many who cling to the doctrine of economic growth and market expansion as the only legitimate

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<sup>42</sup>I use the term 'human industry' in the broadest sense to include all collaborative human work especially as typically associated with the marketplace and/or economy. This includes learning, inventing, innovating, providing services, and the making of things. It does not purport to comment on the motivation for this collaboration or the purpose, but only the fact of such collaboration and its fruits.

<sup>43</sup>For a good overview of environmental accounting see Henry M. Peskin and Ernst Lutz, "A Survey of Resource and Environmental Accounting in Industrialized Countries," in Toward Improved Accounting for the Environment, ed. Ernst Lutz (Washington, D.C.: World Bank, 1993). For other examples see Salah El Serafy and Ernst Lutz, "Environmental and Resource Accounting: An Overview," Environmental Accounting for Sustainable Development, eds. Yusuf J. Ahmad, Salah El Serafy, and Ernst Lutz (Washington D.C.: The World Bank, 1989), 1-7; Richard B. Norgaard, "Three Dilemmas of Environmental Accounting," Ecological Economics 1 (December 1989): 303-314; Roefie Hueting, "Correcting National Income for Environmental Losses: A Practical Solution for a Theoretical Dilemma," in Ecological Economics: The Science and Management of Sustainability, ed. Robert Costanza (New York: Columbia University Press, 1991), 194-213; Jan Tinbergen and Roefie Hueting, "GNP and Market Prices: Wrong Signals For Sustainable Economic Success That Mask Environmental Destruction," in Population, Technology, and Lifestyle: The Transition to Sustainability, eds. Robert Goodland, Herman E. Daly, and Salah El Serafy (Washington D.C.: Island Press, 1992), 52-62; Per-Olov Johansson, "Valuing Environmental Damage," Oxford Review of Economic Policy 6 (Spring 1990): 34-50; Silvio O. Funtowicz and Jerome R. Ravetz, "The Worth of a Songbird: Ecological Economics as a Post-Normal Science," Ecological Economics 10 (August 1994): 197-207.

<sup>44</sup>Herman E. Daly and John B. Cobb, Jr., For the Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future (Boston: Beacon Press, 1989), Chapter Three.

<sup>45</sup>Herman E. Daly, "Consumption and Welfare: Two Views of Value Added," Review of Social Economy, 4 (Winter, 1995): 463.

form of development.<sup>46</sup> For example, Edward Walter says that limiting growth is downright immoral; for him, 'no-growth futurism' is a new and cynical form of pessimism.<sup>47</sup> "Material development from the inception of the Industrial Revolution until present has been identified with the pursuit of wealth. It has been defined as the acquisition of goods . . . and money or money substitutes."<sup>48</sup> He claims that such material development is a necessary means for achieving personal development.<sup>49</sup> In a truly liberal first world democracy, he declares, we should sustain economic growth and material development by directing industrial development along desirable lines.<sup>50</sup> It is only by industrial development that the interests of the poor can be met. Only by technological innovation and growth can resource shortages be overcome.<sup>51</sup>

#### 1.2.4 *The Question of Sustainability*

The doctrine of inexorable economic growth and market expansion had given rise first to concern over our potential to exhaust resources, and secondly, to concern over the degradation of the capacity of the environment to replenish such stocks. By 1980, frustration with economic development theory was matched with real fear about the sustainability of growth.

The turning point in the emergence of sustainable development as a new paradigm occurred in mid-1980, specifically with the publication of the *Brundtland Report* (World Commission on Environment and Development

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<sup>46</sup>For instance, Jagdish Bhagwati argues that free trade can increase growth, and it is growth which enables governments to raise the taxes needed to support many government activities, including protection of the environment. See Jagdish Bhagwati, "The Case for Free Trade," *Scientific American* 269 (November 1993) 42-49. As another example see Gene M. Grossman and Alan B. Krueger, "Environmental Impacts of a North American Free Trade Agreement," in *The Mexico-U.S. Free Trade Agreement*, ed. Peter M. Garber (Boston: The MIT Press, 1993), 12-46. They argue that sulfur dioxide pollution fell as per capita income rose in cities around the world.

<sup>47</sup>Walter, *The Immorality of Limiting Growth*, 1.

<sup>48</sup>*Ibid.*, 70.

<sup>49</sup>*Ibid.*, 71.

<sup>50</sup>*Ibid.*, 162.

<sup>51</sup>*Ibid.*, 164.

(WCED) 1987). This report highlighted the conflicting nature of conventional economic development and the environment, and popularized the concept of sustainable development (SD). While many, often conflicting, definitions have been offered of what exactly constitutes SD (South Commission 1990; World Resource Institute 1992; World Bank 1992; UNDP 1992), Western capitalist growth is increasingly recognized as the mainspring of unsustainability.<sup>52</sup>

As we close out this century, our fear has often taken on apocalyptic proportions; the scope of our concern has widened to include not only the problem of economic development, but the question of development of life on earth. We are coming to understand more and more that there is more to the problem of sustainable economic development than meets the eye.

### 1.2.5 *Summary*

The quest for relentless economic growth and market expansion has given rise to concern not only about our methods of achieving such growth and expansion, but about the validity of our expectations and desires behind the employed methods. Our assumptions about the development of human industry have collided squarely with the very limitations that are born of such assumptions. By the very process of developing in the ways we have, there has emerged the spectre that such development will be impossible in the long run. We can now articulate the essential concern with clarity; at the heart of our pursuit of relentless economic development is a concern with the notion of sustainability. Can we sustain human economic development? This, I believe, has become the central economic question at the close of our century. And to the extent that it enters into debate over relentless development, it suggests a certain limitation on the possibility of continuing the inexorable race, at least on the track we have so far taken.

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<sup>52</sup>Mehmet, Westernizing the Third World, 124.

### 1 3. Horizons

Louise Fallon and John Dixon confess that the term 'sustainable development' (SD) has been so broadly defined and is used in so many disparate situations, that its real meaning is little understood. The term, which was originally developed in the context of biologically renewable resources, is now applied to the broader economic and social contexts.<sup>53</sup> David Orr suggests that there are two versions of sustainability. Technological sustainability holds that every problem has either a technological answer or a market solution. On the other hand, ecological sustainability would model solutions upon nature.<sup>54</sup> As biologist Marston Bates suggests, this sharp division leads ecologists to pretend that humans do not exist, and economists to pretend that nature does not exist.<sup>55</sup> Alternately, it has been suggested that economic sustainability, the capacity of an economic system to continue operating at some level of output, has nothing to do with ecosystem sustainability, the resiliency of ecologies is beside the point.<sup>56</sup> Richard Norgaard has been blunter. "Environmentalists want environmental systems sustained. Consumers want consumption sustained. Workers want jobs sustained,"<sup>57</sup> The point is this: the cacophony of answers given in response to our desire for sustained inexorable economic development has resulted in divergent and often conflicting viewpoints and methods. There are many camps. Let us look at some of them.

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<sup>53</sup>John A. Dixon and Louise A. Fallon, "The Concept of Sustainability: Origins, Extensions, and Usefulness for Policy," Society and Natural Resources 2 (1989): 73-84.

<sup>54</sup>David W. Orr, Ecological Literacy: Education and the Transition to a Postmodern World (Albany: SUNY, 1992), 24, 35.

<sup>55</sup>Herman E. Daly, "On Economics as a Life Science," Journal of Political Economy 76 (May/June 1968): 392-406.

<sup>56</sup>Krishnan, A Survey of Ecological Economics, 98.

<sup>57</sup>Richard Norgaard, "Sustainable Development: A Co-Evolutionary View," Futures (December 1988): 606-20.

### 1.3.1 *Steady-State Economics*

If economic growth is understood to be the culprit behind resource depletion, environmental degradation, and the supposedly false assumption that prosperity and growth are synonymous, then it would seem rational to halt growth in order to conserve resources, protect the environment, and to introduce a more accurate grasp of real economic prosperity. This is by no means a novel concern, for even John Stuart Mill discussed the rationality of settling down into a steady-state economy<sup>58</sup>. Today, major proponents of steady-state economics include Herman E. Daly, Kenneth Boulding, and Nicholas Georgescu-Roegen.<sup>59</sup> The upshot of the steady-state thesis is that consumption and production, or throughput rates, must be minimized not maximized as in the classical and neo-classical economic models. Emphasis must be placed on distribution of the stock of wealth rather than on the flows of income. In short, economic development is not to be understood as growth.

An interesting spin on the steady-state thesis has been the inclusion of arguments from the physics of thermodynamics. In 1969, R. Ayres and A. Kneese first introduced the law of conservation of matter and energy (the first law of

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<sup>58</sup>Mill said, " . . . at the end of what they term the progressive state lies the stationary state, that all progress in wealth is but a postponement of this, that each step in advance is an approach to it." John Stuart Mill, Principles of Political Economy With Some of Their Applications to Social Philosophy, Books IV and V with an Introduction by Donald Winch (first published 1848, reprint London Penguin Classics, 1985), 111 (page references are to reprint edition). He goes on to say that "I am inclined to believe that it would be, on the whole, a very considerable improvement on our present condition [i.e. of relentless instability in the name of progress]." Ibid., 113.

<sup>59</sup> For Example, see Herman E. Daly, "The Economics of Steady State," American Economic Review (1974) 15-21.; Herman E. Daly, "Introduction to the Steady-State Economy," in Valuing the Earth: Economics, Ecology, Ethics, eds. Herman E. Daly and Kenneth N. Townsend (Cambridge, Mass.: The MIT Press, 1993) 6-18.; Herman E. Daly, "Allocation, Distribution, and Scale: Towards an Economics That is Efficient, Just, and Sustainable," Ecological Economics 6 (December, 1992) 185-193.; Herman E. Daly, "The Economic Growth Debate: What some Economists Have Learned But Many Have Not," Journal of Environmental Economics and Management 14 (December 1987) 323-336.

thermodynamics) into economic discourse.<sup>60</sup> This led to the development of a method of linking energy and resource flow to economic parameters. In 1971, Nicholas Georgescu-Roegen published his work entitled *The Entropy Law and the Economic Problem*.<sup>61</sup> This moved the analysis to include use of the second law of thermodynamics as well as the first.<sup>62</sup> As Jonathan Harris points out, this work "set forth the basic view of the economic system as an 'open' subset of a larger biophysical system, with matter and energy crossing the boundary into the economic system in a low entropy state and returning in a high entropy state."<sup>63</sup> From the perspective of energy and resource flow analysis, the events of human industry are understood to be internalized within the overarching schemes of energy flows of the larger biophysical system. Since there is only a finite amount of low entropy energy in a finite space (that is irrevocably depleted), the limits of accessible resources must be recognized. Kenneth Boulding agrees that we must

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<sup>60</sup>R. Ayres and A. Knees, "Production, Consumption and Externalities," American Economic Review 59 (1969) : 282-97. For a fine historical overview of the role of energetics in economic theory see Philip Mirowski, "Energy and Energetics in Economic Theory: A Review Essay," Journal of Economic Issues XXII (September 1988) : 811-830. The first law of thermodynamics states that energy cannot be created or destroyed, but may be converted from one form to another. See Arthur Beiser, Physics, 4th ed. , (Reading Mass; Benjamin/Cummings Publishing, 1986), 374. More accurately, if a system is caused to change from an initial state to a final state by adiabatic means only, the work done is the same for all adiabatic paths connecting the two states. (adiabatic means that the system is in total isolation from its surroundings so that heat can neither enter or leave the system) See Mark W. Zemansky, Heat and Thermodynamics: An Intermediate Textbook for Students of Physics, Chemistry, and Engineering 3d ed. , (Toronto: McGraw-Hill, 1951) , 60.

<sup>61</sup>For a more recent edition, see Nicholas Georgescu-Roegen, "The Entropy Law and the Economic Problem," in Valuing the Earth: Economics, Ecology, Ethics, eds. Herman E. Daly and Kenneth Townsend (Cambridge, Mass: The MIT Press, 1993) , 75-88.

<sup>62</sup>The second law of thermodynamics states that it is impossible to construct an engine that, operating in a cycle, will produce no effect other than the extraction of heat from a reservoir and the performance of an equivalent amount of work (Kelvin-Planck formulation of the second law). Stated negatively, this is to say that it is impossible to construct a device that, operating in a cycle, will produce no effect other than the transfer of heat from a cooler to a hotter body (Clausius formulation of the second law). It is common to state this law in terms of statistical mechanics; i.e. as time goes on, energy in a closed system becomes more entropic, or disordered.

<sup>63</sup>Jonathan M. Harris, "Energy and Resource Flow Analysis," in Neva Goodwin, ed. , Frontier Issues in Economic Thought (Washington D.C : Island Press, 1995) , vol. 1, A Survey of Ecological Economics, eds. , Rajaram, Jonathan M. Harris, and Neva R Goodwin, 169.

stop treating the earth like an open system with an endless source of energy for production and consumption. He believes that this requires economic principles which reflect the cyclical and ecological nature of economic activity, and that consequently demand reductions of throughput of resources and energy. Proponents of the steady-state thesis maintain that we must begin treating the earth like the closed system it is.<sup>64</sup>

Not all would agree with the validity of using energy flow analysis in economic development theory. Even an illustrious proponent such as Nicholas Georgescu-Roegen cautions against the reductionist tendency to think of economic activity solely in terms of energy flows.<sup>65</sup> Jeffrey Young says flatly that mainstream economists are still right in treating the entropy law as irrelevant to economic analysis. Young feels that technological progress can overcome any growth limitations imposed by entropic disintegration.<sup>66</sup>

Introduction of the steady-state thesis raises questions of a moral nature. Whether we envision economic development as a finely balanced static state, or as endless growth, there is an underlying assumption in both cases that would imply a notion of perpetuity. Paradoxically, the basic desire for perpetual stasis is identical to the desire for relentless growth, at least insofar as each intends a kind

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<sup>64</sup>Kenneth Boulding, "The Economics of the Coming Spaceship Earth," in Environment Quality in a Growing Economy, ed. Henry Jarrett (Baltimore: The Johns Hopkins Press, 1966), 259

<sup>65</sup>Nicholas Georgescu-Roegen, "Energy Analysis and Economic Valuation," Southern Economic Journal 45 (April 1979): 1023-1058. For instance, Fred Cottrell argued that net energy is all humanity needs to be concerned with; he was not alone. See Fred Cottrell, Energy and Society (New York: McGraw-Hill, 1953), Howard T. Odum, "Energy, Ecology and Economics," Ambio 6 (1973): 220-227.

<sup>66</sup>Jeffrey T. Young, "Is the Entropy Law Relevant to the Economics of Natural Resource Scarcity?" Journal of Environmental Economics and Management 21 (September 1991): 169-179. This article sparked a lively debate. See Kenneth N. Townsend, "Is the Entropy Law Relevant to the Economics of Natural Resource Scarcity? Comment," Journal of Environmental Economics and Management 23 (July 1992): 96-100; Herman E. Daly, "Is the Entropy Law Relevant to the Economics of Natural Resource Scarcity? -- Yes of Course It Is!" Journal of Environmental Economics and Management 23 (July 1992): 91-95.

of development that would be inexorable. This common link raises fundamental moral questions that transcend the typical questions of methodology in economics. What is the significance of thinking that development ought to be inexorable? Why do we value inexorability, and perpetuity as integral aspects of development despite such radical differences in approaches and methods as witnessed by the steady-state and growth models? Is there a common element to the good we seek despite such divergent methods? If so what is it? While the steady-state approach represents a shift in thinking about methods in economic development, it also represents the emergence of ethical questions about the intentions behind such methods.

### 1.3.2 *The Turn of Ethics*

The elusive goal of relentless development has called into question not only the appropriateness of methods, but also the legitimacy of motives. More and more students of human industry are going beyond what has been the traditional economic questions, to ask about the ethical aspects of our desire for inexorable development. For many, the problem lies at the level of value. Charles Wilber and Roland Hoksbergen have noticed that we are finally demanding an account of the ethical implications of our economics theories.<sup>67</sup>

Quite some time ago the liberal economist John Kenneth Galbraith remarked, "The final requirement of modern development planning is that it have a theory of consumption — a view of what the production is ultimately for has been surprisingly little discussed and has been too little missed. "68 In his comment we can detect the shift toward discussion of motives, desires, values. This shift in the tone of the debate has also been noticed by Denis Goulet. He says

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<sup>67</sup>Charles K. Wilber, and Roland Hoksbergen, "Ethical Values and Economic Theory: A Survey," Religious Studies Review 12 (1986) 208-214

<sup>68</sup>John Kenneth Galbraith, Economic Development in Perspective (Boston: Harvard University Press, 1962), 43.



that even as early as the start of the United Nations' first decade of development, U Thant stressed that development was not just economic growth, but economic growth combined with social change.<sup>69</sup> Other economists have taken up this discussion of the ethical elements of economic development theory. Economist Masudul Alam Choudhury agrees that the notion of development necessarily involves social and ethical elements

The concept of economic development as opposed to economic growth incorporates these social and ethical dimensions [i.e. human welfare and distributive equity] of the human problem while addressing the target of economic efficiency and productivity, but not in a separable way.<sup>70</sup>

Elsewhere he states that "the need for endogenizing ethical and moral effects in both the policy and socio-economic variables, is the central focus of sustainable development as an ethics-centered approach to global development."<sup>71</sup> Indeed, he claims that the Brundtland report holds that economics cannot be taken independent of an environmental ethic.<sup>72</sup> For Richard Norgaard, economic efficiency cannot be the criteria for determining the morality of decisions surrounding economic choices.<sup>73</sup> Mark Sagoff has developed a convincing case against the sole use of economic analysis in environmental policy-making. He argues that markets can measure preferences and wants (utility), but it cannot measure or quantify people's beliefs or values. Economics conflates the two and treats preferences as values.<sup>74</sup> J. Ronald Engel has traced the historical emergence

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<sup>69</sup>Goulet, The Cruel Choice, xiii

<sup>70</sup>Masudul Alam Choudhury, Economic Theory and Social Institutions. A Critique with Special Reference to Canada (New York University Press of America, 1994), 218

<sup>71</sup>*Ibid*, 226

<sup>72</sup>*Ibid*, 224

<sup>73</sup>Richard B Norgaard and Richard B Howarth, "Economics, Ethics, and the Environment," in The Energy - Environment Connection, ed Jack M. Hollander (Washington, D.C. Island Press, 1992), 347-363

<sup>74</sup>His arguments have been presented in a series of articles which culminated in publication of Mark Sagoff, Economy of the Earth (New York Cambridge University Press, 1990) While his particular differentiation of beliefs and values presents some challenges for our present study, we

of the moral component of our understanding of sustainable development, especially in light of our new (or at least re-awakened) awareness about the environment <sup>75</sup>

Not surprisingly, many have looked to colleagues in philosophy departments for help in articulating these ethical notions. As a consequence, at least in North America, much of the critical reflection on the ethical aspects of economic development theory is flavoured by the discourse on justice, rights, and duties. For example, both Talbot Page and David Pearce have suggested employing and expanding John Rawls' inter-temporal theory of distributive justice for use in establishing principles for sustainable development. <sup>76</sup>

Theologian Jay B. McDaniel suggests that the word 'sustainability' really "pertains to the relationship of a just human society to its natural environment" <sup>77</sup> Well-known economist Amartya Sen argues for an *a priori* rights-based, or entitlements approach to discussing the moral standing of the market. However, he laments that "most defenses of the market are instrumental in terms of the goodness of the results achieved. It works 'efficiently', it serves our 'interests', it is 'mutually beneficial', it delivers 'the goods', it contributes to 'utility' " <sup>78</sup> Those approaching the impact of economic development from the environmental angle

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concur with him insofar as the issues of values and beliefs form an integral part of understanding human economic activity

<sup>75</sup>This is an excellent introduction to the discussion of the role of ethics in the debate over sustainable development. J. Ronald Engel, "Introduction: The Ethics of Sustainable Development," in Ethics of Environment and Development: Global Challenge, International Response eds. J. Ronald Engel and Joan Gibb Engel (London: Belhaven Press, 1990) 1-23

<sup>76</sup>Talbot Page, "Intergenerational Justice as Opportunity," in Energy and the Future, eds. Douglas MacLean and Peter G. Brown (Totowa, New Jersey: Rowman and Littlefield, 1983), 38-58; David Pearce, "Foundations of an Ecological Economics," Ecological Modeling 38 (September 1987) 9-18. See John Rawls, A Theory of Justice (Cambridge Massachusetts: The Belknap Press of Harvard University Press, 1971)

<sup>77</sup>Jay B. McDaniel, Earth, Sky, Gods, and Mortals: Developing an Ecological Spirituality (Connecticut: Twenty-Third Publications, 1993), 20

<sup>78</sup>Amartya Sen, "The Moral Standing of the Market," in Ethics & Economics, eds. Ellen Frankel Paul, Jeffrey Paul and Fred D. Miller, Jr. (Oxford: Basil Blackwell, 1985), 2

have also relied heavily on the duties/rights discourse. Widely confirmed efforts here include the work of John Passmore, Roderick Nash, William Blackstone, Peter Singer and Tom Regan to name a few.<sup>79</sup> Christopher Stone has gone so far as to ask whether or not natural objects have rights. This has sparked a lively debate<sup>80</sup>

We are no longer concerned with methods alone, but also with the legitimacy of the motives behind our methods. We have moved to open debate about the ethical significance of relentless economic development, no matter what form it may take. Curiously, while the discussion is still predominantly in terms of notions of justice and the rhetoric of rights and duties, it has given rise to a peculiar worry about the future.

### 1.3.3 *Inter-Generational Justice*

Richard Norgaard says we are witnessing the fall of the idea of progress which assumed that technical mastery of nature, through unlimited economic growth, would ensure our future.<sup>81</sup> Like many others now, he feels that we need to care explicitly about the impact of our actions on future generations, not only of humans but of all sorts of beings. Michael Toman has observed that most definitions of sustainability and sustainable development involve some notion of

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<sup>79</sup>John Passmore, Man's Responsibility for Nature (New York: Scribner's, 1974), Roderick Frazier Nash, The Rights of Nature: A History of Environmental Ethics (Wisconsin: University of Wisconsin Press, 1989), William Blackstone, "Ethics and Ecology," in Philosophy and Environmental Crisis, ed. William Blackstone (Athens: University of Georgia Press, 1974), Peter Singer, Animal Liberation, 2d ed. (New York: New York Review of Books Press, 1990), Tom Regan, The Case for Animal Rights (Berkeley: University of California Press, 1983).

<sup>80</sup>Christopher D. Stone, Should Trees have Standing? -- Toward Legal Rights for Natural Objects (Los Altos, CA: Kaufmann, 1974). This was originally published as Christopher D. Stone, "Should Trees have Standing? -- Toward Legal Rights for Natural Objects," Southern California Law Review 45 (2nd quarter, 1972): 450-501. For arguments against such rights see P. S. Elder, "Legal Rights for Nature: The Wrong Answer to the Right(s) Question," in Environmental Ethics Volume II, eds. Raymond Bradley and Stephen Duguid (Burnaby B.C.: Institute for the Humanities, Simon Fraser University, 1989): 103-119. This was previously published in Osgood Hall Law Journal 22 (1984).

<sup>81</sup>Norgaard, "Sustainable Development: A Co-Evolutionary View," 606-20.

respect for the interests of our descendants or some notion of inter-generational fairness.<sup>82</sup> Joel Feinberg is definitely to be included in this group.<sup>83</sup> Such concern culminated in the now famous and now widely accepted Brundtland Commission definition of sustainable development. It holds that development is sustainable if it "meets the needs of the present without compromising the ability of future generations to meet their own needs."<sup>84</sup>

In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development, and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.<sup>85</sup>

As Johan Holmberg and Richard Sandbrook say, the primary implication of this definition is that future generations should inherit an undiminished inventory of "quality of life" assets.<sup>86</sup>

Many agree with some version of this central position.<sup>87</sup> But some see the attribution of rights and duties to future generations as very seriously flawed

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<sup>82</sup>Michael A. Toman, "The Difficulty in Defining Sustainability," Resources 106 (Winter, 1992) 3-6

<sup>83</sup>Joel Feinberg, "The Rights of Animals and Unborn Generations," in Philosophy & Environmental Crisis, ed. William Blackstone (Athens, Georgia: University of Georgia Press, 1974), 64ff

<sup>84</sup>This report issued from the United Nations Commission on Environment and Development under the leadership of Gro Harlem Brundtland. See World Commission on Environment and Development, Our Common Future (New York: Oxford University Press, 1987), 43. It also said, however, that sustainable development requires "more rapid growth in both industrial and developing countries." *Ibid.*, 89. As David Orr suggests, "the commission, therefore, politely appeased both sides of the debate. The word 'sustainable' pacifies environmentalists, while 'development' has a similar effect on businessmen and bankers." See Orr, Ecological Literacy, 23

<sup>85</sup>*Ibid.*, 22

<sup>86</sup>See Johan Holmberg and Richard Sandbrook, "Sustainable Development: What is to Be Done?" in Making Development Sustainable, ed. Johan Holmberg (Washington D.C.: Island Press, 1992), 24

<sup>87</sup>Concern for future generation is well established in the literature. John V. Krutilla discusses the shift from focus on conservation of resources to preservation of the environment for future generations. John V. Krutilla, "Conservation Reconsidered," American Economic Review 57 (September 1967) 777-786. Theologian James Nash's definition of sustainability reflects concern for future generations: "sustainability is living within the bounds of the regenerative, absorptive,

philosophy. Richard T. De George says that future generations do not presently have rights because they do not now exist.<sup>88</sup>

Future persons do not, individually or as a class, presently have the right to existing resources. They differ from presently existing persons who in general have the right to the judicious use of the goods necessary for them to continue in existence. And if some of these goods, because of present rational demands, are used up, then it is a mistake to say that future persons or future generations have or will have a right to those goods and that we violate their rights by using them up. Future generations or future individuals or groups should correctly be said to have a right only to what is available when they come into existence, and hence when their possible future rights become actual and present.<sup>89</sup>

Dale Jamieson agrees. "In the end then, the argument from duties to future generations fails to be convincing because of the indeterminacy of the preferences of future generations, even if it is true, as we have allowed, that we

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and carrying capacities of the earth, continuously and indefinitely." James Nash, Loving Nature: Ecological Integrity and Christian Responsibility (Nashville: Abingdon Press, 1991), 64. The issue of equity to future generations vs. efficiency of the economy is considered in Norgaard and Howarth, "Economics, Ethics, and the Environment," 347-363. Charles Perrings speaks of strong support for the 'precautionary principle,' which involves commitment of resources now in such a way as to safeguard against catastrophic outcomes in the future. Charles Perrings, "Reserved Rationality and the Precautionary Principle: Technological Change, Time, and Uncertainty in Environmental Decision Making," in Ecological Economics: The Science and Management of Sustainability, ed. Robert Costanza (New York: Columbia University Press, 1991), 153-166. For a discussion of the notion of debt owed to future generations, see Tinbergen and Hueting, "Wrong Signals For Sustainable Economic Success," 52-62. For a discussion of the limitations of using positive discount rates to safeguard the interests of future generations see Anil Markandya and David W. Pearce, "Development, the Environment, and the Social Rate of Discount," The World Bank Research Observer 6 (July, 1991): 137-152. In terms of compensating future generations - especially for the depletion of non-renewable resources - it is suggested that we be concerned more with compensating the loss of productive potential, rather than the utility of the resources as presently enjoyed. See Brian Berry, "Intergenerational Justice in Energy Policy," in Energy and the Future eds. Douglas MacLean and Peter G. Brown (Totowa, New Jersey: Rowman and Littlefield, 1983), 15-30. It has even been argued that the deep- ecology movement's 'obsession' with wilderness is rooted in the concern for maintaining a gene pool for future generations. See Ramachandra Guha, "Radical American Environmentalism and Wilderness Preservation: A Third World Critique," Environmental Ethics 11 (Spring 1989): 71-83.

<sup>88</sup>Richard T. De George, "The Environment, Rights, and Future Generations," in Ethics and Problems of the 21st Century eds. K. E. Goodpaster and K. M. Sayre (Notre Dame: University of Notre Dame Press, 1979), 95.

<sup>89</sup>*Ibid.*, 96.

have some duties to those who will live after us."<sup>90</sup> What anyone in the future might want is anyone's guess.

Annette Baier counters this judgment. She maintains that just because future generations are unknown, this does not mean that the events of now do not shape who they are. Our actions still have an effect on the radical contingency of their being, and for this reason alone we have certain duties to them.<sup>91</sup>

Regardless of the outcome of this on-going debate, the move to discussion of the rights and duties of the currently non-existent is in the very least a move to an implicit discussion of the notion of 'transcendence' insofar as transcendence may be understood in the simplest sense as 'going beyond'.<sup>92</sup> Now if there is a field which considers the questions of transcendence formally and explicitly, it is theology. And if there is a facet of human living that is preoccupied by the significance of transcendence, certainly it is religion. By bringing up the question of future generations and inter-generational justice, the philosophical approach has taken a decidedly theological bent, perhaps much to the chagrin of its key proponents! In any case, it comes as no surprise that theologians and religious authors have also had a lot to say about the transcendental significance of our pursuit of relentless economic development.

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<sup>90</sup>Dale Jamieson, "The City Around Us," in Earthbound: New Introductory Essays in Environmental Ethics, ed. Tom Regan (Philadelphia: Temple University Press, 1984), 57.

<sup>91</sup>Annette Baier, "For the Sake of Future Generations," in Earthbound: New Introductory Essays in Environmental Ethics, ed. Tom Regan (Philadelphia: Temple University Press, 1984), 219-220. It is interesting to note how the notion of contingency implies a radical separation of knowing and being, and how it also seems to imply a vague notion of probability; i.e. what does the contingency of being mean? It may be fruitful to explore the philosophical premise of this type of argument, for it seems to underpin most of the discussion on future generations in some form or another.

<sup>92</sup>Collected Works of Bernard Lonergan, eds. Frederick E. Crowe and Robert M. Doran, vol. 3, Insight: A Study of Human Understanding (London: Longmans, Green & Co., 1957; reprint, Toronto: University of Toronto Press, 1992), 658 (page references are to reprint edition).

### 1.3.4 *Theological Perspectives*

The notion of sustainability has also had an impact on the theological debate concerning the significance of economic development. It is often central to discussions about the environmental impact of human industry.<sup>93</sup> It remains implicit in Christian discussions of the environment in relation to development<sup>94</sup> and population issues.<sup>95</sup> It is often used metaphorically in discussions of Christian stewardship of the earth,<sup>96</sup> respect for God's creation,<sup>97</sup> and other discourse of a cosmological nature.<sup>98</sup> It is used in the context of Christian debate concerning social justice issues,<sup>99</sup> liberation,<sup>100</sup> and the political economy in general.<sup>101</sup>

Much of the theological literature on sustainable development mirrors the concerns over resource depletion, environmental degradation, and justice already identified above. For instance, J. Philip Wogaman says that the economic

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<sup>93</sup>Daly and Cobb, For the Common Good; Ulrich Duchrow, Global Economy: A Confessional Issue for the Churches, trans. David Lewis (Geneva: WCC Publications, 1987).

<sup>94</sup>Eugene Hargrove, ed., Religion and Environmental Crisis (Athens, Georgia: University of Georgia Press, 1986).

<sup>95</sup>Just Faaland, ed., Population and World Economy (Oxford: Basil Blackwell, 1982).

<sup>96</sup>McFague, The Body of God.

<sup>97</sup>Jung, We Are Home.

<sup>98</sup>Paolo Soleri, Arcology: The City in the Image of Man (Cambridge, Mass.: MIT Press, 1969); Archer Torrey, The Land and Biblical Economics (New York: Henry George Institute, 1985).

<sup>99</sup>National Conference of Catholic Bishops, Economic Justice for All: Pastoral Letter on Catholic Social Teaching and the U.S. Economy (Washington D.C.: United States Catholic Conference, 1986); E.F. Sheridan, ed., Do Justice: The Social Teaching of the Canadian Catholic Bishops (1945-1986) (Sherbrooke Quebec: éditions Paulines and the Jesuit Centre for Social Faith and Justice, 1987); Cranford Pratt and Roger Hutchinson, eds., Christian Faith and Economic Justice: Toward a Canadian Perspective (Burlington, Canada: Trinity Press, 1988).

<sup>100</sup>Denis Goulet, "Development as Liberation: Policy Lessons From Case Studies," World Development, 7 (1979): 555; Dennis Goulet, A New Moral Order - Development Ethics and Liberation Theology (New York: Orbis Books, 1974).

<sup>101</sup>Gregory Baum and Duncan Cameron, Ethics and Economics: Canada's Catholic Bishops on the Economic Crisis (Toronto: James Lorimer, 1984); Franz J Hinkelammert, The Ideological Weapons of Death: A Theological Critique of Capitalism, trans. Philip Barryman (Maryknoll, New York: Orbis, 1986); John Houck and Oliver Williams, eds., Catholic Social Teaching and the U.S. Economy (Washington, D.C.: University Press of America, 1984).

activity of humankind has resulted in continuing resource depletion.<sup>102</sup>

Lawrence Osborn decries the environmental crisis, along with James Nash, Shantilal P. Bhagat, K.C. Abraham, and Sean McDonagh.<sup>103</sup> Theologian Shannon Jung says the primary growth-model values of production and consumption are incongruent with environmental demands and Christian living.<sup>104</sup> As Jay B. McDaniel says, "growth-oriented economies are built upon the assumption that human beings are isolated individuals, needing only to consume and produce . . ."<sup>105</sup> Abraham believes that the ecological crisis "is created by modern industrial and technological growth. The Western industrial growth model is almost universally accepted."<sup>106</sup> James Nash agrees.

[economic] growth is a major factor in destroying the ecosystems on which the well-being of social and economic systems ultimately depend. Unrestrained production and consumption are key factors in the excessive exploitation and toxification of the renewable and nonrenewable gifts of nature.<sup>107</sup>

John B. Cobb, Jr. (who has collaborated with Herman E. Daly of steady-state economics fame) acknowledges the flaws in the doctrine of growth. He says that "our present economic system is geared to the goal of affluence and is quite inappropriate to the new goal [of living within renewable resources]."<sup>108</sup> E. F.

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<sup>102</sup>J Philip Wogaman, Economics and Ethics A Christian Inquiry (Philadelphia: Fortress Press, 1986), 52.

<sup>103</sup>Lawrence Osborn, Guardian of Creation Nature in Theology and the Christian Life (Leicester, England: Apollos, 1993), 16-20 ; Nash, Loving Nature, chapters 2 and 3; Shantilal P. Bhagat, Creation in Crisis: Responding to God's Covenant (Elgin, Illinois: Brethren Press, 1990), 55-94, 111 ; K.C. Abraham, "A Theological Response to the Ecological Crisis," in Ecoteology Voices From North and South, ed. David G. Hallman (Maryknoll, New York: Orbis, 1994), 65-78 ; Sean McDonagh, To Care For the Earth A Call to a New Theology (Santa Fe, NM: Bear & Co., 1987), 17-59.

<sup>104</sup>Jung, We Are Home, 25ff

<sup>105</sup>Abraham, "A Theological Response," 73

<sup>106</sup>*Ibid.*, 66

<sup>107</sup>Nash, Loving Nature, 200

<sup>108</sup>John B. Cobb, Jr., "Christian Existence in a World of Limits," in Religion and Environmental Crisis, ed. Eugene C. Hargrove (Athens, Georgia: University of Georgia Press, 1986), 173



Schumacher also argued for a steady-state approach on theological grounds.<sup>109</sup> Social justice, duties and rights, especially for future generations, is strongly reflected in the theological debate and represents a major category for Catholic and other Christian writers.<sup>110</sup> On the other hand, Christian normative claims about the economy are sometimes still firmly based on the neoclassical presupposition that development is endless growth and consumption of scarce resources is appropriate.<sup>111</sup> As Nash points out, there is also a good side to economic growth, for "growth has fostered some important - in some cases indispensable - values; profits as incentives to energize the system; jobs in the tens of millions; a multitude of goods and services; capital for investments and improvements; tax revenues for government programmes . . ."<sup>112</sup> It has been suggested by one Christian writer that steady-state economics is not a remedy to the problems created by the growth-as-development model; reversal of growth is

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<sup>109</sup>E F Schumacher, "The Age of Plenty A Christian View," in Economics, Ecology, Ethics Essays Towards A Steady State Economy, ed. Herman E. Daly (New York: W H Freeman and Co, 1980), 126-137

<sup>110</sup>For instance it has been suggested that the resources of the earth are to be held in trust by all humanity. See Joe Holland, "Transforming the World Economy: The Crisis of Progress and the Priority of Labor," in The Common Good and U.S. Capitalism, eds., Oliver Williams and John Houck (Washington, D.C.: University Press of America, 1987), 285ff. See also the essay by Gar Alperovitz, "Planning for Sustained Community," in The Common Good and U.S. Capitalism, eds., Oliver Williams and John Houck (Washington, D.C.: University Press of America, 1987), 331ff. Cranford Pratt, "International Development and Christian Responsibility," in Christian Faith and Economic Justice: Toward a Canadian Perspective, eds., Cranford Pratt and Roger Hutchinson (Burlington, Canada: Trinity Press, 1988), 147-158. P. Travis Kroeker, Christian Ethics and Political Economy in North America: A Critical Analysis (Montreal: McGill-Queen's University Press, 1995).

<sup>111</sup>For example, F. Ray Marshall states that "industrial policy does not require government to plan the economy and is not incompatible with reliance on strong market forces." F. Ray Marshall, "Full Employment and Selective Labour Market Policies," in The Common Good and U.S. Capitalism, eds., Oliver Williams and John Houck (Washington, D.C.: University Press of America, 1987), 92. As C. Fred Bergsten suggested to the conference, "the freer the trade among all countries, in fact, the larger the overall pie and thus total income for the world as a whole." See C. Fred Bergsten, "Trade Relations Between the U.S. and Developing Countries," in The Common Good and U.S. Capitalism, eds., Oliver Williams and John Houck (Washington, D.C.: University Press of America, 1987), 254.

<sup>112</sup>*Ibid.*, 199-200

an even more erroneous step <sup>113</sup> In brief, the theological debate seems to have many similarities to the secular debate.

Some Christian writers claim that the Jewish and Christian communities have been uniquely sensitive for millennia to the ramifications of economic development. For example Sophie Jakowska maintains that reflection on ecology has long been a part of the Judeo-Christian heritage. "Obviously, some 'ecological awareness' existed among the Israelites, they knew their dependence upon the waters, the trees, the soil, the seasons."<sup>114</sup> However there are those who would strongly disagree. Christianity as a world view has been blamed by many for the very state of affairs that has given rise to current concerns over sustainable development. Ironically, Christianity has been declared by some humanists to be anthropocentric. Lynn White Jr.'s critique of the Judeo-Christian heritage, "The Historical Roots of Our Ecological Crisis" is now a famous (or infamous) example <sup>115</sup> The upshot of his argument is that scientific, technological and economic development, which are historically at the root of environmental decline, are an extrapolation of Christian theology. If science, technology and Western economic activity are out of control, then Christianity bears a huge burden of guilt for the ensuing crisis. He says that the problem stems from the Christian world-view that would put humanity at the centre of the cosmos, and declare us superior to nature.<sup>116</sup> This critique is now widely accepted at face

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<sup>113</sup>T. McFadden, ed., Theology Confronts A Changing World (Connecticut Twenty-Third Publications, 1977)

<sup>114</sup>Sophie Jakowska, "Roman Catholic Teaching and Environmental Ethics in Latin America," in Religion and Environmental Crisis, ed. Eugene C. Hargrove (Athens Georgia: University of Georgia Press, 1986), 129

<sup>115</sup>Lynn White, Jr., "The Historical Roots of Our Ecologic Crisis," Science 155 (March 1967), 1203-1207

<sup>116</sup>While I am not interested in debating with Lynn White Jr. here, I would like to say in passing that I believe the superiority complex he notices evolving throughout the history of Western civilization is due to a radical immanentization of the Christian eschaton. Whether anyone could rightly ascribe this tendency to any orthodox Christian viewpoint is, in the very least,

value and its influence has permeated much of the literature. For instance, Frederick Elder says that there are two groups in the environmental ethics debate. The first, the inclusionists, are distinguished by their holistic approach and their awareness and elucidation of the interrelated web of all life. This group would include people such as Aldo Leopold, Rachel Carson, botanist Edmund Sinnott, landscape architect Ian McHarg, and Loren Eiseley (who holds that nature is not only empirically interrelated, but that it is holy, miraculous, and awesome). Such inclusionists are biocentric according to Elder. The second group, the exclusionists, see humanity and nature as radically separated; they are anthropocentric. Here Elder mentions Pierre Teilhard de Chardin, Herbert Richardson (Toward an American Theology) and Harvey Cox.<sup>117</sup> It is not surprising, in light of the wide acceptance of White's thesis, that the Christians are labeled exclusionistic.

In any case, Christianity has consistently admitted a unique role for humanity in regards to the rest of creation. Reinhold Niebuhr states the central claim.

The obvious fact is that man is a child of nature, subject to its vicissitudes, compelled by its necessities, driven by its impulses, and confined within the brevity of the years which nature permits its varied organic forms, allowing them some, but not too much, latitude. The other less obvious fact is that man is a spirit who stands outside of nature, life, himself, his reason and the world. . . . Man cannot, by taking thought, reduce himself to the proportions of nature and . . . he does not have the freedom to destroy his freedom over natural process, any more than he has the freedom to overcome his precarious dependence upon nature.<sup>118</sup>

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questionable. Perhaps Eric Voegelin provides the better explanation. See Eric Voegelin, The New Science of Politics: An Introduction, with a Forward by Dante Germino (Chicago: University of Chicago Press, 1952; reprint, Chicago: University of Chicago Press, 1987), 107-132 (page references are to reprint edition).

<sup>117</sup>Frederick Elder, Crisis in Eden (New York: Abingdon Press, 1970), 14-15.

<sup>118</sup>Reinhold Niebuhr, The Nature and Destiny of Man: A Christian Interpretation, vol. 1, Human Nature, Gifford lecture series. (London: Nisbet, 1941; reprint, London: Nisbet, 1949), 3-4 (page references are to reprint edition).

It is this grasp of the transcendent aspect of being human that marks the theological contribution as being quite different from other contributions. Whereas the secular philosophical approaches can bring us to the point of considering the transcendent nature of our quest for inexorable economic development (e.g. the concern for inter-generational justice), they are silent on the meat of the matter. It has been up to theology to make the issue of transcendence an explicit topic for discussion vis. the significance of economic development. Whether or not theology has been very successful in engaging anyone but the converted in this endeavor remains to be seen. I fear that such reactions as Lynn White Jr.'s indicate that we may still be speaking amongst ourselves for the large part.

In summary, the theological perspective has been engaged in many aspects of the debate about sustainable economic development. It speaks readily about resource depletion, it acknowledges environmental degradation as an empirical reality. It has its supporters and detractors for alternative economic methods such as steady-state economics, and it is keenly ready to take up social justice issues like the rights and duties of future generations. But it does so not with the assumption that such considerations originate with humanity. Theology is prepared to take seriously the transcendent aspects of these concerns and to strive for coherent explanations of the full range of implications of our inexorable drive for economic development.

### **1.3.5 *Summary***

There is a cacophony of answers given in response to our questions about the inexorability of economic development. The neo-classical pursuit of boundless economic growth has been stalled. In response, steady-state economics has offered an alternative vision, but it still represents a desire for inexorable

economic development. This shifting debate has given rise to concerns not only about method, but also about the legitimacy of motives underlying any version of inexorable development. This moment in the debate represents a move to moral issues. The discussion of justice issues like duties and rights seems to be one example of the move beyond the selection of appropriate methods, to an examination of the ethical significance of available choices. The philosophical worry over future generations borders on a concern for the transcendent, and perhaps theology could have a lot to say about this matter if it could only find its voice. That being said, there appears to be three viewpoints or horizons involved in the quest for sustainable economic development. The first would see the solution as an economics problem at the level of method; pursue relentless economic development, but do by pursuing a perpetual steady-state, not inexorable growth. The second horizon would regard the problem not one of method in economics but in ethics; it asks What is the moral nature of the quest for inexorable economic development? Finally the third horizon would see the question of relentless development as leading somewhere, as transcendent; the trick here is to discover the trajectory and to plot the course. Each horizon offers a different viewpoint and perspective on the problem. To be sure, our concerns about human industry may incorporate any or all of these viewpoints to some degree. Nevertheless, to the extent that there is divergence among viewpoints and differences in horizons, there remain barriers to be transcended.

#### **1.4. Collision**

In outlining the three main approaches to the problem of sustainable economic development, I have tried to give some idea of the on-going debates. Insofar as positions become strident, horizons tend to become frontiers, and the frontiers tend to demarcate certain points of collision, as it were, between

diverging world-views. But what sets these divergent viewpoints on their collision courses?

#### 1.4.1 *Community Boundaries*

The debate about how to obtain sustainable economic development is a curious mixture of brilliant theoretical insight and practical common sense wisdom. By common sense I mean that "unknown source of a large and floating population of elementary judgments which everyone makes, everyone relies on, and almost everyone regards as obvious and indisputable."<sup>119</sup> There is usually wide consensus on the validity of economic theory in general, but the problem seems to be that we often have trouble seeing eye to eye about what constitutes the sensible thing to do. And so we pollute rivers to make a buck, chain ourselves to old-growth Redwoods, or murder people to save the lives of beautiful creatures.

As a type of developing intelligence, common sense is common to humanity, but as a content, it is common to specific communities.<sup>120</sup> That is to say, there are many brands of common sense but they are divided into categories particular to time, place, culture, group, and so on.<sup>121</sup> Common sense occupies the world of community.<sup>122</sup> It is a common apprehension of common meaning and, consequently, it defines the boundaries of a community of meaning-makers.<sup>123</sup> Thus the community is constituted by its common sense, its common meaning, common commitments, and its common apprehension of what being a member

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<sup>119</sup>Lonergan, *Insight*, 314

<sup>120</sup>Lonergan, *Method*, 272

<sup>121</sup>*Ibid.*, 303; Lonergan, *Insight*, 203

<sup>122</sup>Theory occupies the world of science. *Collected Works of Bernard Lonergan*, eds. Robert C. Croken, Frederick E. Crowe and Robert M. Doran, vol. 6, *Philosophical and Theological Papers 1958-1964* (Toronto: University of Toronto Press, 1992), 114.

<sup>123</sup>*Ibid.*, 207, 201

of community implies.<sup>124</sup> Common sense involves spontaneous collaboration of communication<sup>125</sup> that leads to the erection of a basic structure by which each individual can fill out his or her individual list of particular truths, whatever they may be.<sup>126</sup>

Thus there is a shared understanding of what is meant when, for example, one speaks of sustainable development in terms of human stewardship of God's creation, or in terms of the exquisite simplicity of the unified entropic approach to consumption-production energy flows. What would mean total sense to a community of Christian theologians may be common nonsense to a community of thermodynamics scientists, and visa versa.

#### 1.4.2 *Practical Solutions*

The object of such common sense collaboration is the world of ordinary description, everyday language, the world of persons and things in relation to us.<sup>127</sup> Common sense deals with the particular and concrete of practical living.<sup>128</sup> It functions solely to master each situation as it arises. It has no theoretical inclination to move beyond the familiar world of things for us.<sup>129</sup> In common sense, knowledge is not pursued for its own sake but is inextricable with the task of getting on with daily living as a human being.<sup>130</sup> The human collaboration that results in common sense is dominated by practical considerations and pragmatic

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<sup>124</sup>Ibid , 172

<sup>125</sup>Loneragan, *Insight*, 198

<sup>126</sup>Ibid , 324 The remote source of judgments is collaboration Ibid , 315

<sup>127</sup>Ibid , 317 ; Lonergan, *Method*, 81, 258 , *Collected Works of Bernard Lonergan*, eds Robert M. Doran and Frederick E. Crowe, vol 10, *Topics in Education The Ginnanti Lectures of 1959 on the Philosophy of Education* (Toronto: University of Toronto Press, 1993) , 140

<sup>128</sup>*Insight*, 198 Also *Collected Works of Bernard Lonergan*, eds Elizabeth A. Morelli and Mark D. Morelli, vol 5, *Understanding and Being* (New York: Edwin Mellin Press, 1980, reprint, Toronto: University of Toronto Press, 1990) , 125, 323, 362 (page references are to reprint edition) , Common sense is the mode of all concrete understanding and judgment Lonergan, *Topics in Education*, 71, 73 , Lonergan, *Method*, 303

<sup>129</sup>Loneragan, *Understanding and Being*, 125

<sup>130</sup>Ibid , 86

sanctions.<sup>131</sup> "Indeed, the supreme canon of common sense is the restriction of further questions to the realm of the concrete and particular, the immediate and practical."<sup>132</sup>

The collaboration of common sense does not aim at establishing general truths, but at building up a nucleus of habitual insights such that the addition of one or two more will bring one to the understanding of any of an open series of concrete situations. This nucleus of habitual insights is centred in the subject and the world, and when it is shared by a group, it becomes the common sense of that group.<sup>133</sup> By this accumulation of insights, common sense is able to deal with any situations as they are likely to arise.<sup>134</sup> However, the incompleteness of common sense makes it common without being general, for once a particular situation has passed, the added insight is no longer relevant, so that common sense reverts back to its normal state of incompleteness.<sup>135</sup> We can see that there is a special method to common sense just like all other specialized fields of knowledge.<sup>136</sup>

Common sense, then, has its own specialized field or domain. It has its own criteria on the relevance of further questions. It has its own basically constant vocabulary, its proper universe of discourse, and its own methodological precepts of keeping to the concrete, of speaking in human terms, of avoiding analogies and generalizations and deductions, of acknowledging that it does not know the abstract, the universal, the ultimate.<sup>137</sup>

To some extent, all debate on sustainable economic development is restricted to the common sense focus on the concrete and particular. For example,

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<sup>131</sup>Loneragan, Insight, 318.

<sup>132</sup>*Ibid.*, 201.

<sup>133</sup>Loneragan, Topics in Education, 72. Common sense is an accumulation of insights resulting in an intellectual habit. See also Lonergan, Insight, 200, 598.; Lonergan, Method, 71-72.

<sup>134</sup>Loneragan, Topics in Education, 72. Common sense operates directly from its accumulated insights. Lonergan, Insight, 199.

<sup>135</sup>*Ibid.*, 199.

<sup>136</sup>Loneragan, Understanding and Being, 92.

<sup>137</sup>Loneragan, Insight, 322.



the lumber industry may point out the necessity to level forests in order to make profits, to keep employees working, to satisfy shareholders. The approach is very pragmatic; get the job done, cut down the trees. But environmentalists' complaints can be equally pragmatic. If you level forests, they can't be enjoyed, and if they can't be enjoyed, then tourism will decrease, and people won't come anymore. The only pragmatic thing to do is to stop cutting the trees down! And so we get opposing views on what exactly constitutes the practically intelligent thing to do. Again, there can be a common sense approach to steady-state economics. If you want to stop depleting resources, then you had better stop using them up. Likewise, it is only common sense for the Christian to respect nature for it is God's creation. In each example, there is a community of meaning-makers bent on doing the practical thing in order to get on with daily living in a coherent and intelligent fashion. And to the extent that the meaning of practicality is different, there are defined the boundaries of distinct communities trying to work out their version of how we can get on with the practical job of getting on. Therefore, it comes as no surprise that there are as many versions of sustainable economic development as there are communities collaborating in common sense.

Because common sense is not general, there also emerges the problem of interpretation among the various communities' common sense versions of sustainable economic development. The general problem is that the common sense statements of one community are not readily understandable by another community.<sup>138</sup> As each community gives its own interpretation of sustainable economic development, problems will arise when those interpretations collide.

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<sup>138</sup>Lonergan, *Method*, 154. A task of interpretation is understanding the common sense of another group, of a different time and/or place. *Ibid.*, 160. Historical explanation is a sophisticated extension of common sense. *Ibid.*, 230.

Furthermore, the social order that has been realized can end up not corresponding to any coherently developed set of practical ideas; it can end up representing a mere fraction of the practical ideas, while the rest have fallen away by the necessity of compromise between groups.<sup>139</sup> But eventually the concrete distortions that result from dropping intelligent options are exposed to the inspection of the community and outsiders. Not only are the neglected ideas revealed, they can be taken up by other communities, and thereby lead to outright opposition between groups. Ultimately this can result in varying degrees of conflict between communities. Reactionary groups may try and block any correction offered by opposing groups, employing for this purpose whatever power they possess in whatever manner they deem appropriate and effective. Thus some major industries respond to environmentalist through obfuscation. Secondly, progressive groups may try and correct existing distortions and seek the means that will prevent their future recurrence. Perhaps the mainstream groups concerned with sustainable economic development fit here. However, the attitudes of the dominant community can greatly influence the attitudes of the disenfranchised groups. Thus reactionaries are confronted by revolutionaries, and progressives are met by liberals. The first clash results in violence. The sinking of the *Rainbow Warrior* is a good example. In the second confrontation, the ends may be agreed upon, but there is disagreement about when and how such ends are to be achieved. Many NGO's seem to have this kind of relationship with the World Bank and IMF because of existing structuralist approaches to lending policy.

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<sup>139</sup>Ibid. , 249.

In any case, we may say that different common sense versions of what constitutes economic development can eventually lead to collisions between communities.

### 1.4.3 *Summary*

Horizons tend to become frontiers, and the frontiers demarcate certain points of collision between diverging world-views. Common sense defines the boundaries of a community of meaning-makers engaged in spontaneous collaboration in dealing with concrete situations. Eventually, the situation that has been realized represents only a fraction of the practical ideas that have fallen away. Eventually the concrete distortions of the community, that result from dropping intelligent options, are revealed to the inspection of the group and the multitude. Not only are the neglected ideas exposed, they can be opposed. Ultimately the opposition results in the conflict we see between the various common sense versions of sustainable economic development.

Such, I believe, is the nature of the debate about sustainable economic development. It is still dominated by the practical intelligence of common sense viewpoints. Accordingly, it suffers the schisms that result from the clash of communities and their different ideas about what exactly constitutes the sensible thing to do.

We must be very careful here. Common sense is not to be held in contempt. It is an intellectual development, a spontaneous inquiry and spontaneous accumulation of insights.<sup>140</sup> But it serves a wholly practical purpose. The collision of viewpoints is not caused by following common sense,

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<sup>140</sup>Ibid , 97-198. Its ideal remains elusive. As Lonergan indicates " to ask what the ideal of common sense is, is like asking, What's the meaning of life? Well it's something we're trying to find out. You live without knowing why, until you do find out. And you live according to the best ideas you can get hold of, and look for better ones." Lonergan, Understanding and Being, 308-309.

but by failing to grasp the specificity of common sense to particular communities. Problems arise only when we make claims about its capacity to offer general explanations. As Lonergan warns us, "rational choice is not between science and common sense; it is a choice of both, of science to master the universal, and of common sense to deal with the particular."<sup>141</sup>

So long as sustainable economic development remains dominated by a community's common sense understanding and practical agenda, it will predominantly serve to guide the pragmatic decisions and efforts of whatever that community chooses to sustain economically. The probability of these different communities seeing eye to eye remains slim because of the specificity of common sense. Our goal then is not to reject the legitimate role of common sense in practical living, but to admit that it cannot measure up to the task of finding a lasting solution to the problem of sustainable economic development. If we are to move beyond the frontiers of our common sense versions of economic development, if we are to avoid the collision of conflicting common sense viewpoints, then we must be prepared to search for a more general solution than can be afforded by the common sense suggestions of our specific communities.

### 1.5. Extrication

I have established the state of the question which is to become the focus of our study. Through a review of the literature, I have tried to show how the question of sustainability arose out of the shortcomings of successive theories and practices of economic development. There are divergent and often conflicting responses to our desire for inexorable economic development. Our literature review demonstrates that solutions are often cast in terms of an

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<sup>141</sup>Lonergan, *Insight*, 203

economics problem about appropriate methodologies, a moral problem about the good of economic activity, or a problem of transcendence. Such horizons tend to place boundaries on our search for solutions. Horizons between communities tend to become frontiers, and the frontiers demarcate certain points of collision between diverging interpretations of sustainability.

### 1.5.1 *The Central Question*

The quest for relentless economic growth and market expansion has given rise to concern not only about our methods of achieving such growth and expansion, but about the validity of our expectations and desires behind those methods. Resource scarcity and environmental degradation have raised questions concerning the limitations to this doctrine of economic growth. We are faced with a crucial question:

**Can we sustain human economic development?**

We may indeed share a hope for sustainable economic development, but widely divergent viewpoints render our predominately common sense approaches ineffective and at odds with one another. This hope, despite conflicts, repeated failures, and frustrations, provided us with a clue about how to approach the question of sustainable economic development from a theological perspective. There is a need for an explanatory account of sustainable economic development which can transcend the boundaries between common sense communities and render our approaches more effective and congruent, and our efforts more united. Furthermore, there is a need to understand the transcendent elements in our desire for relentless development, our desire to go beyond our present economic situations, and our new-found concern over future

generations. In short, by focusing on the transcendent aspects of the notion of sustainable economic development, we can make a contribution to the debate which it truly theological in scope.

### 1.5.2 *Hypothesis*

The challenge is to articulate a general theory of sustainable economic development. We create methods so that we may transcend barriers to sustainable economic development. But we are forced to reach beyond these methods when they fall short of the intended goal of sustaining development. Ironically, we must somehow transcend previously considered methods of transcending!

**Sustainable economic development requires a capacity to transcend heretofore considered methods of transcending barriers to economic development.**

### 1.5.3 *Approach*

I will continue to employ the work of Bernard J.F. Lonergan to argue the thesis of this study. I shall apply several of his methods and work under certain assumptions. Foremost of these assumptions will be that economic development is not a kind of economy, but rather a kind of human development. Economic development will be understood principally as the development of the meaning of our human industry. It will also be assumed that methods are proper to particular types of inquiry; what is appropriate for studying the economy may not necessarily be appropriate for studying economic development *qua* development.

I will rely heavily on what Lonergan calls 'genetic method.' Genetic method is concerned with sequences in which correlations and regularities

change. The principle object is to master the sequence itself, to understand what links economic development at one stage to the next, to understand how seemingly different versions of sustainability are somehow related.<sup>142</sup> I have already begun along this road insofar as this overview attempted to trace what is going forward historically in the emergence of successive versions of economic development and in the emergence of the question of sustainability. I shall continue to employ this method to understand the static and dynamic aspects of economic transformation.

In a more general way, I will rely on what Lonergan calls 'transcendental method.' In common sense terms, this method assumes that we must all have something in the backs of our minds when we intend to transform the economic elements of our human condition (this is what I have had in mind using the phrase *curriculum inexcrahilis*). In more technical terms, it relies on the heuristic function of our intending. Transcendental method serves an heuristic function insofar as what is intended is an unknown that is to be known.<sup>143</sup>

Many of Lonergan's terms will be used throughout the study. Each will be defined as it is brought into use. It must be stressed that some apparently common terms, like the words 'event,' 'knowing,' and 'good,' for example, have very different meanings than one might assume. The reasons are not merely semantic, for many such terms imply a whole host of philosophical presuppositions about knowing and being. Accordingly, such terms are defined in light of Lonergan's critical realist philosophy.

Whenever possible, I have kept to terminology prevalent in the literature. For example, I rely on the work of Adam Smith and Kenneth Boulding to distinguish between 'capital,' 'capital formation,' and 'capital stock.' As another

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<sup>142</sup>Ibid. , 486.

<sup>143</sup>Lonergan, Method, 22.

example, I employ Lonergan's term 'circulation' when talking about the movement of capital through monetary functions. As a final example, I employ the term 'welfare' as would a contemporary welfare economist. But in many cases I have found it necessary to invent new terminology to make sharp explanatory distinctions that are not made in the literature, or else have been lost over the years. For instance, the ancient Greeks distinguished between 'retail-trade' and 'estate-management.' While this distinction may seem irrelevant nowadays, it points to a conceptual distinction that has since been conflated but nevertheless still seems important. Accordingly, I have raised the conceptual distinction once again, but now I have given the analogous concepts new names more fitting to our theories on economic development.

In any case, the general approach has been to 1) rely on proven methods for our analysis, 2) employ terminology meaningful to our major interlocutors, and 3) introduce and define new concepts only as they emerge from the analysis, using terminology that is contextually sensitive.

#### **1.5.4 *Outline of the Thesis***

The aim of Chapter Two is to demonstrate that there is a hierarchy of forms of human industry. I shall argue that 1) human industry involves different kinds of events, 2) our experiences and explanations are formulated in terms that correspond to these different kinds of events, 3) the resulting intelligible patterns are distinct, 4) these patterns represent a hierarchy of viewpoints, and 5) these viewpoints pertain to markets, economies, and ecologies as different forms, also arranged in a corresponding hierarchy.

The aim of Chapter Three is to show a correspondence between the forms of human industry and the forms of good. The first part outlines Bernard Lonergan's theory of the good to be used in the discussion. The second, third,



and fourth parts explore the significance of the good in terms of the market, economic, and ecological forms respectively. The fifth part examines how each form is dominated by a different and specific aspect of the good.

Chapter Four suggests that sustainable economic development is by definition a relentless and infinite transformation of human industry to successively higher, more fully differentiated forms. In the first part I examine the market, economic, and ecological forms of economic development. In the second I note that economic development involves a radical transformation from the market form, to the economic form, to the ecological form. In the third part I define economic development. The fourth part discusses how the radical transformation to the higher viewpoint or higher form is effected. In the fifth part I examine the emergence of each form of development as the direct response to the shortcomings of the lower form of development. Here I conclude that the successive transformations lead to a more differentiated and systematic account of inadequacies brought about by the very operations of the lower form. In the final section I observe that there is an underlying unifying principle in this series of explanations of sustainability.

My aim in Chapter Five is to show that economic transformation is possible only to the extent that intellectual, moral and religious conversion occurs in communities of human subjects. Here I define the notions of intellectual, moral, and religious conversion. I show that the problem of human liberation has a grave effect upon the probability of achieving a common economic good and confronts us both with our incapacity for sustained development and with our need to transcend hitherto considered methods of transcending the problem of sustaining development. In the final section I

transpose the findings in terms of a theological perspective, and thereby conclude with a statement of my thesis:

**Sin distorts economic transformation, making sustainable economic development impossible without the redemptive work of God's operative grace.**

Year after year we are faced with mounting evidence of our radical incapacity to sustain economic development. But still we hope. The question remains whether or not our hope should be based on the assumption that present shortcomings will be overcome by some sort of future perfection. Perhaps we need to search elsewhere for lasting solutions.

## CHAPTER TWO

### FORMS

Perhaps the most significant limitation of the common sense approach to sustainable economic development is its incapacity to make generalized explanatory differentiations. How often do we hear people speak of the state of our economy in terms of how 'the markets' are doing? How often do we hear friends refer to their investment profits like stereos and other tangible things to be acquired? How frequently do environmentalists condemn human industry as the antithesis of ecological well-being? Indeed, there is quite some confusion over the form of human industry. Is it to be explained as a market, an economy, an ecology, some hybrid of each, or something entirely different yet again? Are such distinctions even relevant for understanding sustainable development? If so, why? And along what lines ought we make differentiations so that our understanding of sustainable development is advanced?

It is to this task of making some generalized explanatory differentiations that I now turn. Insofar as current common sense approaches to development remain unsustainable, human industry is in need of some change, some transformation. But before we can intelligently discuss transformation, we must determine the significance of the notion of 'form' that is to be transformed. This is the task of Chapter Two. My aim is to show that human industry can be differentiated and understood in terms of markets, economies, and ecologies.

In the first part I shall argue that human industry involves different kinds of events. In the second part I shall demonstrate that our experiences and explanations of these events are formulated and verified using distinctly different terms. In the third part I shall see how these distinct formulations lead to an understanding of three different kinds of patterns in human industry. The fourth part will be dedicated to showing how these patterns are arranged in an hierarchy. In the final section I shall show how these arrangements pertain to three different explanatory forms of human industry.

An important clarification must be made from the outset. Throughout this and remaining chapters I rely on many examples to demonstrate our points. Readers familiar with the works cited may well realize that the authors' ultimate aims and conclusions differ from mine. My point is never to argue that this or that author consciously differentiates the forms of human industry as I shall attempt. Rather, my goal is to take advantage of the relatively rare moments in the literature when some degree of explanatory differentiation seems apparent. It is these moments that I draw upon, never implying that the trajectory of a given author's work is the same as mine, never implying that the author would be necessarily in agreement with my hypothesis, never implying anything about the author's ultimate conclusions. In one sense, the examples are simply empirical evidence that my differentiation of forms is at least latent in some of the literature, some of the time.

## 2.1. Events

The events of human industry can be understood from three different aspects. There are events associated with the activities of exchange. These include activities like buying and selling, and trucking and bartering goods and services. Let us name these market events. There are also events associated with the

circulation of money. These include classical economic functional relationships such as exists between supply and demand, production, savings, and investment. Let us name these economic events. Finally, there are the events of human industry associated with the context or the environment from within which they occur. These events include reciprocating changes between human industry and non-market and non-economic events such as rain forest destruction, barrier reef formation, and so on. Let us name these ecological events.

### 2.1.1 *Market Events*

Every morning tens of thousands of traders and consumers packed the thoroughfares of Tenochtitlan, the Aztec capital. They would buy maize, polished stones, cotton garments, wild turkeys, garlic, raw fish and gold. Scholars now believe that this city at one time may have been the world's largest marketplace; neither Rome nor Constantinople had anything to rival it.<sup>1</sup> From ancient times until now, from the Old World to the New World, markets seem to have been present wherever human society persisted. Such marketplaces are still familiar to most of us today. There is the hustle and bustle of a farmers' market with all its wonderful sights and sounds and smells. There is the frantic commotion of a stock market floor. There are wheat markets, commodity markets, mail-order markets, and cyber-markets. All of these markets involve getting things and selling them, acquiring services and providing them, exchanging what one doesn't need or want for what one does need or want.

Jane Jacobs, the famous student of urban economic development, provides many descriptions and explanations of the world of exchange.

The workers from the laboratories, meat-packing plants, warehouses, plus those from a bewildering variety of small manufacturers, printers and other little industries and offices, give all the eating places and much of the other

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<sup>1</sup>See Andrew Nikiforuk, "The Great Fire," *Equinox* 59 (Sept/Oct, 1991), 78.

commerce support at midday. We residents on the street and on its more purely residential tributaries could and would support a modicum of commerce by ourselves, but relatively little. We possess more convenience, liveliness, variety and choice than we "deserve" in our own right. The people who work in the neighborhood also possess, on account of us residents, more variety than they "deserve" in their own right. We support these things together by unconsciously cooperating economically.<sup>2</sup>

Here Jacobs explains that the primary sector is one of the generators of economic diversity within cities. Notice that the insights which she affirms in this example are formulated in terms of the actual transactions and exchanges between people. Jacobs does not employ the language of economics. This is not about GNP, GDP, employment statistics, housing starts, inflation rates, interest rates, savings functions, econometric models, or input-output matrices. Jacobs is not talking about the circulation of capital. Instead she talks about people at factories exchanging their pay for sandwiches. Her insights about primary industry being a generator of diversity stem from an analysis which relies solely on the description and explanation of exchange transactions.<sup>3</sup> She is concerned with market events.

Adam Smith provides us with another example of what is meant by our term 'market event.'

As by means of water-carriage a more extensive market is opened to every sort of industry than what land carriage alone can afford it, so it is upon the sea-coast, and along the banks of navigable rivers, that industry of every kind naturally begins to subdivide and improve itself. A broad-wheeled wagon, attended by two men, and drawn by eight horses, in about six weeks' time carries and brings back between London and Edinburgh near four ton weight of goods. In about the same time a ship navigated by six or eight men, and sailing between the ports of London and Leith, frequently carries and brings back two hundred ton weight of goods.

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<sup>2</sup>Jane Jacobs, *The Death and Life of Great American Cities* (New York: Vintage Books, 1961) 153

<sup>3</sup>Loneragan's respect for Jane Jacobs work on economic development is well known. There is also substantial secondary literature linking Lonergan to Jacobs. For examples see Fred Lawrence, ed., *Loneragan Workshop Journal* (Atlanta, Georgia: Scholars Press, 1989), vol. 7, *Ethics In Making A Living: The Jane Jacobs Conference*

Since such, therefore, are the advantages of water carriage, it is natural that the first improvements of art and industry should be made where this conveniency opens the whole world for a market to the produce of every sort of labour, and that they should always be much later in extending themselves into the inland parts of the country.<sup>4</sup>

Here Smith explains that water transportation is one of the generators of market expansion. The events which concern him involve the actual modes of transportation and the degree of exchange they afford. He speaks of ships, wagons, men, and horses. He has formulated explanations of relationships between events that lead to the development first of coastal markets, then of inland markets. His method and the object of his interest in this example bear striking similarities to the work of Jacobs; both he and Jacobs describe and explain what is going on in the world of markets that involve people, their interactions and their exchanges. Like Jacobs, the events arise by understanding and affirming human industry solely in terms of exchange.

From these two simple examples we can see that it is possible to rationally affirm a degree of understanding of human industry strictly in terms of formulations that are based upon our descriptions and explanations of the exchange of goods and services. Thus we may say that human industry, taken from the aspect of market events, involves an aggregate of events that occur in the world of exchange.

### 1.1.2 *Economic Events*

Economic events are not so much concerned with the world of market activity, as with the activity of world markets. They are about gross national products, employment rates and econometric models. There is the economy of Japan, or Canada, or the Pacific Rim, or the Third World. There is the economy of

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<sup>4</sup>Adam Smith, The Wealth of Nations. Books I-III, with an Introduction by Andrew Skinner (first published 1776, reprint, Middlesex, England: Penguin Books, 1983), 122-123 (page references are to reprint edition)

import and export, of finance and investment. There is the economy of government expenditure and revenue, and multinational consortia.

To understand the difference in meaning being assigned to economic events as compared with market events, let us take up the example already provided from the work of Jacobs. She notes that employees from the factories and industries spend their money at lunch hour in the restaurants in her neighborhood. They also get haircuts, shoes repaired, dry cleaning done, and so on. There is a willingness to purchase these services and that demand is met. Money flows from the households of workers to the local businesses by virtue of the exchanges which take place. The money spent at lunch hour is originally paid out to the workers by the factories; the wages are but one of the factory's costs of doing business. By relying on a study of the events of exchange in her neighborhood, Jacobs has implicitly traced the path of cash flowing from household to business and back again. But she has done so only as an aspect of the aggregate of exchange events. The cash functions under these terms solely as a medium of exchange: why, how and whence it flows is only coincidental from the market perspective.

But what happens when we turn our focus from the market events involved in exchange, to the events involving the systematic circulation of money itself? What happens if we consider the flow of goods and services to be analogous but not identical to the flow of money, or capital? More specific to our example, instead of asking about how willing people are to spend their money to eat lunch, what if we ask about how the notion of willingness to spend and the supply of sandwiches are functionally related to capital flow? Instead of asking about the outlay of money for wages in several local factories, what if we ask about the notion of production cost itself?



Such a shift could lead, at least in the case of our example, to insights about the economic concept of gross national product (GNP). And the concept of GNP, as a purely economic concept, is no longer concerned just with aggregates of exchange events, but with the aggregates of exchange events in relation to aggregates of entirely different kinds of events, all of which contribute not to an explanation of the flow of goods and services, but to an explanation of the flow or circulation of capital.

Let us begin demonstrating this point by first defining GNP.

The gross national product (GNP) may be calculated in two different ways, corresponding to the money flow from households to business or the equal money flow from business to households. In the first way [the expenditure approach], we examine the aggregate money demand for all products.

The second way is to add up the money paid out by businesses for all its costs of production.<sup>5</sup>

Using the expenditure approach, GNP is measured in principle by summing the total expenditures for domestically produced goods and services by four kinds of spending units to obtain gross national expenditure.<sup>6</sup> These four kinds of spending units are consumption (C), investment (I), government purchases (G), and exports (X). They are equivalent to the gross national expenditures (GNE). The concept of GNP may be represented by the following equation:

$$\text{GNP} = \text{GNE} = \text{C} + \text{I} + \text{G} + \text{X}$$

Consumption includes almost all capital outlay by households. Investment includes capital directed toward residential housing, expenditures on machinery

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<sup>5</sup>Howard J. Sherman, Elementary Aggregate Economics (New York: Appleton-Century-Crofts, Meredith, 1966) , 30-31.

<sup>6</sup>This definition of GNP is taken from Richard G. Lipsey, Gordon R. Sparks, and Peter O. Steiner, Economics (New York: Harper & Row, 1973) , 455-456.

and equipment, and construction other than residential. Government purchases include the purchase of goods and services by the government. Finally, exports, or more precisely, net exports, represent the difference between capital received from exports and capital paid for imports of goods and services, including merchandise, interest and dividends paid to and received from nonresidents, tourist expenditures by citizens abroad (as imports), and expenditures by nonresidents in the given country (as exports).

Now determining each of these factors obviously requires the collection and collation of vast amounts of data and the subsequent derivation of such mathematical relationships as demand functions, consumption functions, savings functions, etc. that implicitly define and distinguish the different kinds of aggregates of events linking consumption, investment, and government purchases. Secondly, it can be seen that the aggregates of the aggregates of these different kinds of events are linked not by virtue of exchange *per se*, but by virtue of the circulation of capital. What happens in specific restaurants and factories, in this neighborhood or on that street corner is still relevant and connected, but these aggregates of aggregates of events are now linked not because they contribute to an explanation of the movement of goods and services, but because they contribute to an explanation of the circulation of capital.

The world of demand-curve shifts, employment rate fluctuations, price equilibrium changes, elasticity in marginal propensities to buy, and so forth, involves events that are concerned with capital circulation directly and exchange only indirectly. One has only to peruse any standard economics textbook to realize this.<sup>7</sup> When we study human industry from the aspect of economic events, we are no longer restricted to the description and explanation of human

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<sup>7</sup>For a discussion of any of these terms and their relationship to GNP, consult the index of any standard economics textbook such as Lipsey, Economics.

interaction in the world of exchange. We are engaged in the description and explanation of complex changes in the relationships of aggregates of such events as they relate to many other aggregates of economic events, all of which may be declared to be economic events not because they link moments of exchange to one another, but because they trace the circulation of capital in a way that is beyond the range of exchange or market events alone.

We can see that it is possible to rationally affirm a degree of understanding of human industry strictly in terms of formulations that are based upon our descriptions and explanations of the flow of capital. Thus we may say that human industry, taken from the aspect of economic events, is characterized by concern not with aggregates of market events, but with aggregates of aggregates of all kinds of economic events that are inextricably interrelated by virtue of their relevance to understanding the circulation of capital.

### 2.1.3 *Ecological Events*

Historically, economists have dealt with non-economic events as 'externalities'.<sup>8</sup> However, the field of ecological economics has emerged in response to our relatively recent discovery that human industry is inextricable

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<sup>8</sup>An externality is said to occur when production or consumption affects the welfare of others without being mediated through any market. It can have both positive and negative effects which are either localized or pervasive. Localized can be dealt with usually by adjusting prices or some other relatively minor changes. Pervasive externalities, however, are general in scope. In these cases the costs do not fall on a clearly defined group, nor is the cause traceable to a single localized activity (e.g. acid rain from industry would be an example). The traditional means of dealing with externalities has been to internalize all external costs and benefits in the money price paid for the goods or services which gave rise to the external costs in the first place. The usual means of adjustment is a tax which would be calculated to measure the external cost of the commodity. Supposedly, this would in effect represent the addition of an external cost to the internal cost, giving the full social cost. Decisions by consumers and producers would then be made in light of full-cost prices. In the case of an external benefit or positive externality, the tax would be negative (i.e. a subsidy). Daly and Cobb, *For the Common Good*, 53-55. Dale Jamieson has pointed out the difficulty with trying to internalize externalities in classical economics. See Dale Jamieson, "The City Around Us," 46.

from the environment within which it occurs.<sup>9</sup> This whole-systems approach is considered by some not to be just a sub-discipline of economics, but an entirely different scientific endeavor.<sup>10</sup> And if ecological economics can be understood as an autonomous science, then one might suspect that it attends to significantly different kinds of data and involves significantly different kinds of events than market or economic events.

Attempts to explain the relationship between human industry and the environment within which it occurs cover a broad spectrum. For example, Aldo Leopold, in his famous book *A Sand County Almanac*, gives us a clue as to why events considered from the ecological aspect are very different from market events or economic events.<sup>11</sup> In the following excerpt, Leopold discusses the pervasive environmental impact of economic expansion in the western part of the United States. His vignette is about the introduction of the annual weed known as cheat grass (*Bromus tectorum*).<sup>12</sup>

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<sup>9</sup>Internalizing pervasive externalities is now considered virtually impossible. See Robert Costanza and Herman E. Daly, "Toward an Ecological Economics," Ecological Modeling 38 (September 1987): 1-7; David Pearce, "Foundations," 9-18; Vandana Shiva, "Recovering the Real Meaning of Sustainability," in The Environment in Question, eds. David Cooper and Joy S. Palmer (New York: Routledge, 1992), 187-193; Daniel A. Underwood and Paul G. King, "On the Ideological Foundations of Environmental Policy," Ecological Economics 1 (December 1989): 315-334; Herman E. Daly, "Introduction to the Steady-State Economy," in Economics, Ecology, Ethics: Essays Toward a Steady-State Economy, ed. Herman E. Daly (New York: W.H. Freeman and Co., 1980), 1-31; Herman E. Daly, "On Economics as a Life Science," in Economics, Ecology, Ethics: Essays Toward a Steady-State Economy, ed. Herman E. Daly (New York: W.H. Freeman and Co., 1980), 238-252; Peter Soderbaum, "Neoclassical and Institutional Approaches to Development and the Environment," Ecological Economics 5 (May 1992): 127-144.

<sup>10</sup>"A new field of study is being defined which is independent of the standard economic paradigm." Krishnan, A Survey of Ecological Economics, xxxv.

<sup>11</sup>As Wallace Stegner notes, *A Sand County Almanac* is "almost a holy book in conservation circles," and Aldo Leopold is regarded as "an American Isaiah." See, Wallace Stegner, "The Legacy of Aldo Leopold," in Companion to 'A Sand County Almanac': Interpretive & Critical Essays, ed. J. Baird Callicott (Wisconsin: Wisconsin University Press, 1989), 233. For an excellent biography consult Curt Meine, Aldo Leopold: His Life and Work (Wisconsin: The University of Wisconsin Press, 1988).

<sup>12</sup>In the summer of 1941 Leopold toured the western U.S.A. It was at the Modoc National Forest in Oregon that he first noted the invasion of ranges by cheat grass. See Meine, Aldo Leopold, 417.

Today the honey-colored hills that flank the northwestern mountains derive their hue not from the rich and useful bunchgrass and wheatgrass which once covered them, but from the inferior cheat which has replaced these native grasses. . .

The cause of substitution is overgrazing. When the too-great herds and flocks chewed and trampled the hide off the foothills, something had to cover the raw eroding earth. Cheat did. . .

It is impossible fully to protect cheat country from fire. As a consequence, the remnants of good browse plants, such as sagebrush and bitterbrush, are being burned back to higher altitudes, where they are less useful as winter forage.

The habitable wintering belt is narrow. . . Hence these scattering foothill clumps of bitterbrush, sage, and oak, now fast shrinking under the onslaught of cheat fires, are the key to wildlife survival in the whole region. . .

Cheat invades old alfalfa fields and degrades the hay. It blockades newly hatched ducklings from making the vital trek from upland nest to lowland water. It invades the lower fringe of lumber areas, where it chokes out seedling pines and threatens older reproduction with the danger of quick fire.

As is true of the carp, the starling, and the Russian thistle, the cheat-afflicted regions make a virtue of necessity and find the invader useful. Newly sprouted cheat is good forage while it lasts; like as not the lamb chop you ate for lunch was nurtured on cheat during the tender days of spring. Cheat reduces the erosion that would otherwise follow the overgrazing that admitted cheat. (This ecological ring-around-the-rosy merits long thought.)<sup>13</sup>

Our example shows that, when economic activity is considered in terms of ecological events, there is no attempt to subsume non-economic events under economic analysis or to reject them as mere externalities. Quite the opposite is true; human industry is considered embedded in its context. In this example, Leopold links the aggregate of market events (i.e. the exchanges surrounding livestock which graze on the land) to aggregates of other non-market and non-economic events such as depletion of wild life forage, erosion, fires, and so on.

Another more complex example comes from the field of ecological economics. In recent years there has been an attempt to link the physics of

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<sup>13</sup>Aldo Leopold, A Sand County Almanac and Sketches Here and There (New York: Oxford University Press, 1949; reprint, with an Introduction by Robert Finch, New York: Oxford University Press, 1989.), 155-58.

thermodynamics to economic analysis. For instance, Tran Huu Dung has developed a unified entropic approach for relating consumption, production, and technological progress with the second law of thermodynamics.<sup>14</sup> In this case, aggregates of economic events (e.g. economic statistics on production and consumption) are linked to aggregates of non-market and non-economic events (e.g. changes in environmental temperature and general trends in states of entropy). By making these connections, Tran Huu Dung, like Leopold, postulates a certain relationship between human industry and the environment within which it occurs.

Human industry, taken from the aspect of ecological events, includes market events and/or economic events combined with non-market events and/or with non-economic events.

Thus it is also possible to rationally affirm a degree of understanding of human industry strictly in terms of formulations that are based upon our descriptions and explanations of non-market and non-economic events. Human industry, taken from the aspect of ecological events, is characterized by concern not with aggregates of market events, nor with aggregates of aggregates of all kinds of economic events, but with whole ranges of aggregates of aggregates of events of any kind.

#### **2.1.4 Summary**

The events of human industry can be understood from three different aspects. Human industry, taken from the aspect of market events, involves the aggregates of events that occur in the world of transactions and exchanges. Taken from the aspect of economic events, it involves the systematic relationships of aggregates of aggregates of a host of events involved with the

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<sup>14</sup>Tran Huu Dung, "Consumption, Production, and Technological Progress: A Unified Entropic Approach," *Ecological Economics* 6 (December 1992): 195-210.

circulation of capital. Taken from the aspect of ecological events, it involves market and economic events and the environment within which they occur.

## 2.2. Empirical Verification of Formulated Insights

Like any empirical inquiry, the empirical study of human industry involves four distinct elements; (1) observation of data; (2) insights into data; (3) the formulation of those insights; and (4) verification of the formulation. Furthermore, the formulations are either in terms of (1) the relations of things to our senses, or (2) the relations of things to one another.<sup>15</sup> What is observed, what is grasped, what is formulated, and what is verified is quite different depending on whether one is speaking in terms of markets, economies, or ecologies.

### 2.2.1 *Verification Through Experience*

The formulations to be verified in terms of experience, or in relation to us, are called by Bernard Lonergan 'experiential conjugates.' To employ them is to take an abstractive viewpoint, or to prescind from all aspects of the data except some particular quality.<sup>16</sup> Experiential conjugates are either the content of experience, such as seeing red, or else a correlative to such content, such as red as seen, or a derivative of such correlatives as the red that could be seen.<sup>17</sup> They are correlatives whose meaning is expressed by appealing to the content of some human experience.<sup>18</sup> They are determined by observation. and they are the qualities and properties ascribed to the things observed.<sup>19</sup> They are verified in experience as such.<sup>20</sup>

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<sup>15</sup>Lonergan, *Insight*, 102.

<sup>16</sup>*Ibid.*, 271.

<sup>17</sup>*Ibid.*, 103.

<sup>18</sup>*Ibid.*, 102.

<sup>19</sup>*Ibid.*, 273.

<sup>20</sup>*Ibid.*, 104.

Jane Jacobs provides an example of what is meant herein by market experiential conjugates. In a well-known anecdote she has called the 'Hudson Street Ballet,' she argues that inner city areas are centres of complex order, and not the chaotic places urban planners have typically understood them to be. She begins her analysis by experientially correlating what would otherwise appear to be (at least to urban planners!) a seemingly incoherent array of disconnected data for experience.

While I sweep up the wrappers I watch the other rituals of the morning: Mr. Halpert unlocking the laundry's handcart from its mooring to the cellar door, Joe Cornacchia's son-in-law stacking out the empty crates from the delicatessen, the barber bringing out his sidewalk folding chair, Mr. Goldstein arranging the coils of wire which proclaim the hardware store is open, the wife of the tenement's superintendent depositing her chunky three-year old with a toy mandolin on the stoop, the vantage point from which he is learning the English his mother cannot speak. . . . It is time for me to hurry to work too, and I exchange my ritual farewell with Mr. Lofaro, the short, thick-bodied, white-aproned fruit man who stands outside his doorway a little up the street, his arms folded, his feet planted, looking solid as earth itself. We nod; we each glance quickly up and down the street, then look back to each other and smile.<sup>21</sup>

This is a vivid example of experiential conjugates involving exchange or market events. The correlations between data are expressed here in terms of the content of her experiences in the street, her experiences of the people and places involved in her daily life of exchange and transaction. She does not focus on every data or just any datum she experiences, but only those to which she ascribes some descriptive correlation; the actions of the launderer, the delicatessen staff, the barber, the hardware store owner, the superintendent, the fruit man. She prescind from the rest. The experiential conjugates she formulates are to be verified in terms of the qualities and properties she ascribes to the things she observes. Such conjugates are verified through her experiences as such.

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<sup>21</sup>Jacobs, Great American Cities, 51.



From this we may say that a central characteristic of market experiential conjugates is that they involve verification of formulations, in terms of experience, of insights into data relevant to exchange.

Experiential conjugates of the economy are quite different than those formulated in terms of the market. They are verified in exactly the same way as market experiential conjugates; by appealing to one's experience. But the verification of formulations of insights into data surrounding the circulation of capital does not require direct experience of the same kind of data which is relevant to verification of formulations of insights into data surrounding the exchange of goods and services. The economist does not have to go into the street to experience the relevant economic data anymore than the student of the marketplace can stay in an office and experience the data on markets. For the economist, the relevant data of experience is contained in things such as tables and schedules, production figures, statistics, and in functional curves and graphs. The economist is not concerned with every list of numbers or just any table at all; the economist takes an abstractive viewpoint and prescind from many aspects of the data except some. Such conjugates are verified through experiences but the kinds of conjugates thus verified are not at all like the ones verified by standing on a street corner and watching instances of market exchange.

It is, therefore, a central characteristic of economic experiential conjugates that they involve verification of formulations, in terms of experience, of insights into data relevant to capital circulation.

Ecological experiential conjugates are quite different again than those formulated in terms of the market or economy. For example, in July, 1934, Aldo

Leopold heard about sandhill cranes breeding in the Endeavor Marsh near Buffalo Lake, Wisconsin.

Leopold had not previously shown any marked interest in the great birds, and his knowledge of their biological characteristics was limited. On July 16, Aldo and Carl [his son] stopped to talk with a farmer who lived near the marsh. . . 'We went over there,' Leopold wrote in his journal, 'and were standing under the oaks, scanning the marsh with glasses, when with loud trumpeting the pair flushed from the edge of the woods not a gun shot away. It was a noble sight.'

The sandhill crane flipped a mental switch in Leopold's mind. Over the next few years he continued to search out cranes, in marsh and library, and he devoted much thought to their role in nature's scheme.

The crane itself was a 'sample of original Wisconsin,' a symbol of a past which could never be regained, but which contained values that were alive, and could contribute in the present and future.<sup>22</sup>

Leopold relates this seminal experience himself in the opening lines of "Marshland Elegy" in *A Sand County Almanac*.

High horns, low horns, silence, and finally a pandemonium of trumpets, rattles, croaks, and cries that almost shakes the bog with its nearness, but without yet disclosing whence it comes. At last a glint of sun reveals the approach of a great echelon of birds. On motionless wing they emerge from the lifting mists, sweep a final arc of sky, and settle in clangorous descending spirals to their feeding grounds. A new day has begun on the crane marsh.<sup>23</sup>

Leopold goes on to link these experiences with his experiences of economic activity in Wisconsin, ultimately giving an ecological analysis of how the economic events surrounding the settling of America led to the destruction of significant marshlands and the demise of the sandhill crane.<sup>24</sup> It was his experience of the remnant Wisconsin marshland in 1934 and his subsequent formulation of experiential conjugates that eventually gave rise to this explanation of human industry as ecological. The experiential correlations he expressed initially are in terms of the content of his experiences of the marsh. He

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<sup>22</sup>Meine, *Aldo Leopold*, 330-331.

<sup>23</sup>Leopold, *Sand County Almanac*, 95.

<sup>24</sup>*Ibid.*, 97-101.

does not talk about every event that happened there, or just any event, but focuses only on data pertaining to the cranes. These experiential conjugates are the qualities and properties he ascribed to the things he observed. Such conjugates were certainly verified through his experiences, but these experiences were significantly different than those experienced in the street by Jacobs or in the offices of an economist.

It is, therefore, a central characteristic of ecological experiential conjugates that they involve verification of formulations, in terms of experience, of insights into data relevant to whole ranges of market and/or economic data in relation to whole ranges of non-market and non-economic data.

### ***2.2.2 Verification Through Explanation***

Besides formulating experiential conjugates, we can speak of human industry in terms of explanatory conjugates. Explanatory conjugates are correlatives defined implicitly by empirically established correlations, functions, laws, theories, or systems. The explanatory conjugate has its verification, not in the contents of experience nor in their actual or potential correlatives, but only in combinations of such contents and correlatives.<sup>25</sup> "To employ an explanatory conjugate is to turn attention away from all directly perceptible aspects and direct it to nonimaginable terms that can be reached only through a series of correlations of correlations of correlations."<sup>26</sup>

Recall our first example from the work of Jane Jacobs. Her discussion was about economic diversity and unconscious cooperation within cities. This explanation was built upon a series of empirically established correlations of correlations of correlations. The first round of correlations involved a) correlating the activities of factory workers with the local economy of her neighborhood, and

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<sup>25</sup>Lonergan, *Insight*, 103.

<sup>26</sup>Ibid. , 271.

b) separately correlating the activities of local residents with the local economy. The second round of correlations linked the activity of the factory worker with the activity of the resident. Here she grasped the element of unconscious cooperation. Finally, through this correlation of the first two correlations, she arrived at a third level of correlations (i.e. correlations of correlations of correlations), making the link between the concepts of convenience and variety, and unconscious cooperation. This correlation of correlations of correlations grounds her insight and explanation that unconscious economic cooperation in a mixed economy leads to an abundance of convenience and variety that would otherwise not prevail.<sup>27</sup>

We can readily see by this example that there are distinct market explanatory conjugates. They are correlatives defined implicitly by empirically established correlations. The empirical basis of these correlations are the relevant market data involved in the world of neighborhood transactions. Jacobs has turned her attention away from all perceptible aspects of street activities and directed it to nonimaginable terms such as the notion of cooperation, the notions of convenience and variety, the notion of market abundance, and the relationships between these notions. She has reached these terms only through a series of correlations of correlations of correlations. Her resulting explanatory conjugates have their verification, not in the content of her experience of street activity, nor in their actual or potential correlatives, but only in insights which are combinations of such contents and correlatives. And so we see that there are market explanatory conjugates.

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<sup>27</sup>Jacobs goes on to correlate street safety and the existence of a mixed economy. "For a humble example of the economic effects of people spread through the time of day, I will ask you to think back to a city sidewalk scene, the ballet of Hudson Street. The continuity of this movement (which gave the street its safety) depends on an economic foundation of mixed uses." Jacobs, Great American Cities, 153.

Explanatory conjugates formulated in terms of economic events are radically different in their content than those employed in explanation of market events. To illustrate this point, let us consider how the economic notion of the hypothetical demand function is formulated.

Let us assume for our example that a local inland fishmonger has fresh shrimp flown in every day. Because his product is so perishable, he would not like to be short on product and thus disappoint his customers. But by the same token, he does not want to bring in inventory that does not sell. In the past it has been hit and miss; sometimes customers were begging for more but he had run out; other times it seemed he could not give shrimp away. In either case, he risked losing profits from his business. He wanted to understand what affected the movement of money or capital into his business.

From sales records of previous years he found that the average price he charged per pound of shrimp fluctuated even after adjusting for inflation and other such factors. He tracked the amount he charged per pound of shrimp over a given six-week period. This gave him a first correlation between time and price charged (see Table 2-1).

**Table 2-1 Correlation between time and price**

| <b>Time</b>       | <b>Price/lb.</b> |
|-------------------|------------------|
| <b>Week One</b>   | <b>\$9.00</b>    |
| <b>Week Two</b>   | <b>\$26.00</b>   |
| <b>Week Three</b> | <b>\$16.00</b>   |
| <b>Week Four</b>  | <b>\$6.00</b>    |
| <b>Week Five</b>  | <b>\$19.00</b>   |
| <b>Week Six</b>   | <b>\$13.00</b>   |

Not only did price vary, but the average quantity he actually sold per week did too. Accordingly, he correlated time and quantity (see Table 2-2).

**Table 2-2 Correlation between time and quantity**

| <b>Time</b>       | <b>Quantity sold</b> |
|-------------------|----------------------|
| <b>Week One</b>   | <b>750lbs.</b>       |
| <b>Week Two</b>   | <b>150lbs.</b>       |
| <b>Week Three</b> | <b>450lbs.</b>       |
| <b>Week Four</b>  | <b>900lbs.</b>       |
| <b>Week Five</b>  | <b>300lbs.</b>       |
| <b>Week Six</b>   | <b>600lbs.</b>       |

The fishmonger then wondered if there was a relationship between price charged and amount sold. Thus he made a third correlation between the first correlation (i.e. time correlated to price charged) with the second correlation (i.e. time correlated to quantity sold). This gave a third correlation between price and quantity sold (see Table 2-3).

**Table 2-3 Correlation between price and quantity**

| <b>Price</b>   | <b>Quantity sold</b> |
|----------------|----------------------|
| <b>\$9.00</b>  | <b>750lbs.</b>       |
| <b>\$26.00</b> | <b>150lbs.</b>       |
| <b>\$16.00</b> | <b>450lbs.</b>       |
| <b>\$6.00</b>  | <b>900lbs.</b>       |
| <b>\$19.00</b> | <b>300lbs.</b>       |
| <b>\$13.00</b> | <b>600lbs.</b>       |

This third correlation can be rank-ordered to give what is known as a hypothetical demand schedule (see Table 2-4). Notice that the fishmonger is no longer interested in the relationship between price and a given week, nor amount sold per given week, but only the relationship between price and how much quantity people are willing to buy at a given price.<sup>28</sup>

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<sup>28</sup>In this simplified example we assume that actual sales reflect willingness to pay. Demand is, however, not the actual sale price, but a measure of propensity to pay. See Lipsey, Economics, 64.

Table 2-4 Hypothetical demand schedule for shrimp

| Price/lb. | Quantity demanded<br>(pounds per week) |
|-----------|----------------------------------------|
| \$6       | 900lbs.                                |
| \$9       | 750lbs.                                |
| \$13      | 600lbs.                                |
| \$16      | 450lbs.                                |
| \$19      | 300lbs.                                |
| \$26      | 150lbs.                                |

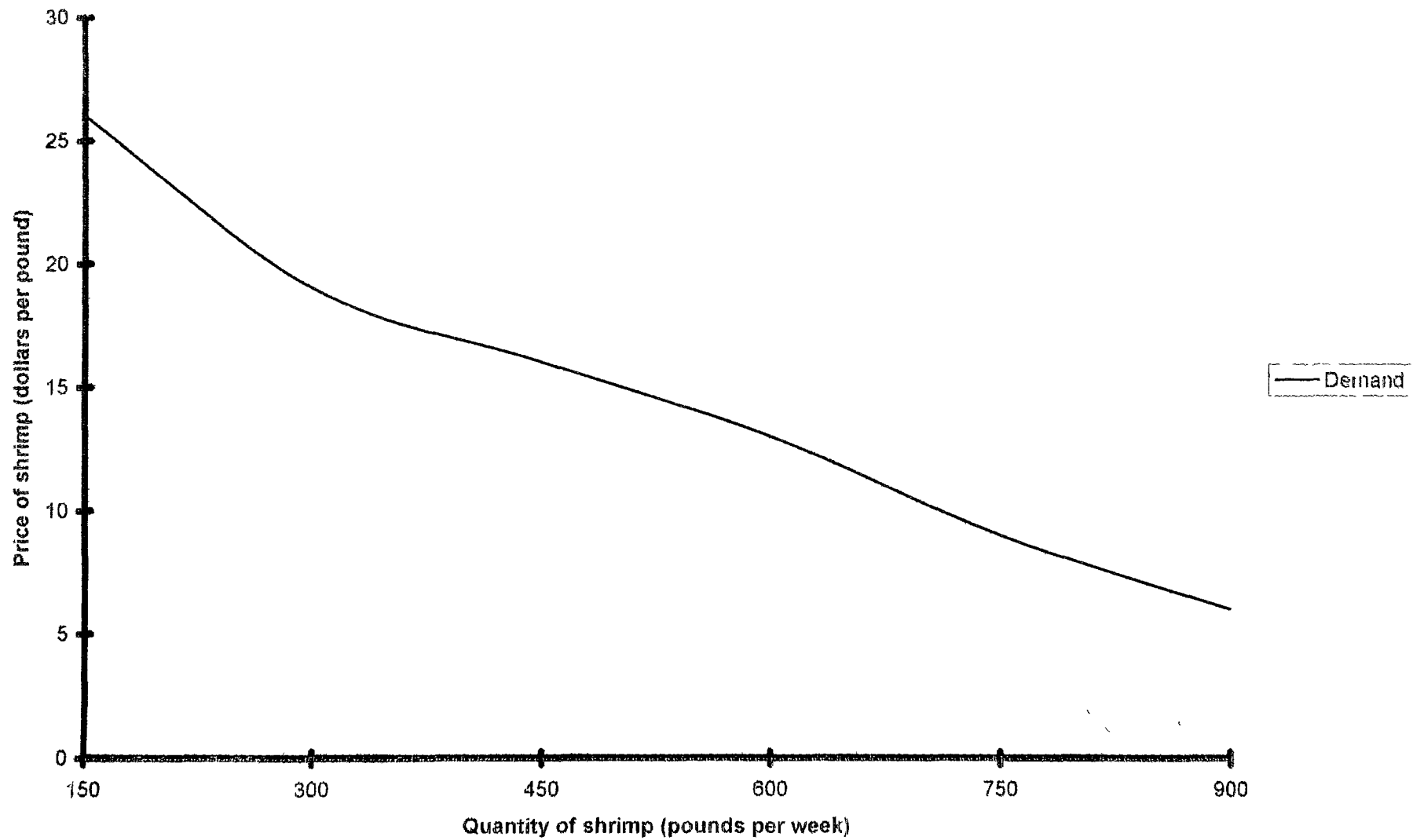
This demand schedule may be represented graphically as a hypothetical demand curve (see Figure 2-1).<sup>29</sup> The demand curve is itself a function. It is reached by the fishmonger turning toward the nonimaginable demand function (i.e. the smooth curve) that stemmed from a series of correlations (points on a demand graph) of correlations (prices charged vs. amounts sold) of correlations (time vs. price, and time vs. amount sold).

It is crucial to recognize that the demand curve is not concerned with explaining exchanges *per se*, but with explaining the circulation of money or

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<sup>29</sup> This curve is called the hypothetical demand curve because the connection of the points plotted on the demand curve involves yet another correlation of separate correlated price/demand points. All points along the curve other than those obtained from the above tabulated records presuppose a hypothetical functional relationship between any given price charged and any given amount sold. That is to say, "... the correlations and functions that relate things directly to one another are determined empirically by measuring, plotting measurements on graphs, and grasping in the scattered points the possibility of a smooth curve, a law, a formulation." Lonergan, *Insight*, 62.

Figure 2-1 Hypothetical demand curve for shrimp





capital. It tells the fishmonger how price affects the flow of capital into his business. That is all.

Note two very important things about the amount of a commodity that is demanded. First, it is a *desired* quantity. It is how much households *wish* to purchase, not necessarily how much they actually succeed in purchasing. . . . The second thing to note is that quantity demanded is a flow. It [demand] does not involve a single isolated purchase, but a continuous flow of purchases, and demand must therefore be expressed as so much per period of time - 1 million oranges *per day*, 7 million *per week*, or 365 million *per year* <sup>30</sup>

In the first place, then, demand tells us nothing about exchanges, but about propensity for the movement of capital. Whether or not concrete instances of exchange actually occur is beside the point of a demand curve. It defines a hypothetical relationship between price and the circulation of capital, for, as Lipsey indicates elsewhere, changes in price (*ceteris paribus*) induce the movement of capital from one function to another.<sup>31</sup> It does not explain why or how goods and services change hands, but why and how capital moves. In the second place, a demand curve tells us about the theoretical rate of movement of capital; it tells us nothing about the actual instances of exchange, nor the sum of actual instances of exchange.

We can see by this example that there are distinct economic explanatory conjugates. They are correlatives defined implicitly by empirically established correlations. The empirical basis of these correlations are the relevant economic data involved in the circulation of capital. The fishmonger has turned his attention away from all perceptible aspects of his shop and directed it to nonimaginable terms such as price, volume of sales, duration, demand, and the relationships between these notions. He has reached these terms only through a series of correlations of correlations of correlations. His resulting explanatory

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<sup>30</sup>Lipsey, *Economics*, 64.

<sup>31</sup> *Ibid.*, 66.

conjugates have their verification, not in the content of his experience of his tables and charts and sales records, nor in their actual or potential correlatives, but only in insights into combinations of such contents and correlatives. And so we see that there are market explanatory conjugates.

No less so, explanatory conjugates formulated in terms of ecologies are distinct from market and economic conjugates. Recall once again the first example in this chapter from Aldo Leopold's work. A first observation may be made. When human industry is explained in terms of ecological events, there is no attempt to confine non-market events to market analysis or economic analysis. Nor is there an attempt to dismiss them as mere externalities. Leopold considers the activity of raising livestock in its wider context. Secondly, the correlations of events surrounding human industry and non-economic and non-market events are considered cyclically; the cycles involved in raising livestock are linked to the life-cycles of animals, indigenous plants, and pine forests. Thirdly, the relationship between the cyclical schemes of market events and the cyclical schemes of non-market events and non-economic events forms an over-arching circularity; overgrazing led to erosion of the land but the introduction of cheat grass stopped the erosion (Leopold's merry-go-round). Fourthly, the overarching circularity between market, non-market and non-economic cycles of events is understood to possess a self-perpetuating flexibility or malleability; changes in the market cycle of herd-raising led to overgrazing and the introduction of cheat; changes in the life cycle of cheat grass led to changes in scrub land fire patterns; the changes in seasonal fire patterns effected the life cycle of wild forage plants; with the alteration of wild forage schemes came alterations in coverage patterns of winter belt forage; changes in the pattern of winter belt coverage effected changes in the life cycles of wildlife.

To generalize, then, ecological explanatory conjugates have the following distinguishing characteristics: a) the aggregates of market events, and the aggregates of aggregates of economic events are correlated with aggregates of aggregates of other kinds of events; b) the correlations of these aggregates are expressed in terms of broad ranges of cyclical schemes; c) the ranges of cyclical schemes display an over-arching circularity in their relationships; and d) this circularity is understood to have an internally generated flexibility.

We can also see by the example from Leopold that such ecological conjugates are just as explanatory as market or economic conjugates. The flexible circles of ranges of cyclically related events are defined implicitly by empirically established correlations. Leopold reached them by turning his attention away from directly perceptible aspects of the northwestern hills, toward nonimaginable or abstract terms such as cycles, ranges of economic and non-economic cycles, and overarching flexible ranges of cycles. These terms can be reached only through a series of insights that grasp correlations (flexibility between ranges of cycles vs. changes internal to cycles) of correlations (e.g. market cycles vs. non-market cycles) of correlations (e.g. market events vs. non-market and non-economic events ). The explanatory conjugates of these flexible circles of ranges of cyclically related events do not have their verification in the content of Leopold's experience nor in actual or potential correlatives of that experience, for no amount of staring at the grasslands would help. Instead, they have their verification only in insights into the combinations of such experiences and the formulated correlatives of correlatives of correlatives as described above.

### ***2.2.3 Summary***

As empirical researchers, students of human industry are interested in verifying formulations of their insights. These formulations are either in terms of

the relations of things to our senses, or the relations of things to one another. In the first case we formulate experiential conjugates, in the second we formulate explanatory conjugates.

Both experiential and explanatory conjugates, because they involve attention to system, lead to a consideration of data, not in the totality of their aspects, but only from some abstractive viewpoint.<sup>32</sup> In the process of abstracting we are forced to prescind from whole ranges of data, and in that prescinding we are confined to making descriptions and formulating explanations that are limited in aspect. Human industry can be taken from at least three distinct and limited abstractive aspects which I have called market, economic, and ecological.

Each of these abstract aspects are different because they take certain data to be relevant and prescind from all other data. Market experiential and explanatory conjugates take as relevant the data involving exchange and transaction. On the other hand, economic and ecological conjugates would be impossible to formulate if restricted to these kinds of data. No amount of observing or explaining exchange and market transactions can tell us why capital flow is linked to price in a demand curve, or tell us why *Bramus tectrum* and livestock husbandry are inextricably related over whole ranges of flexible schemes.

Likewise, economic experiential and explanatory conjugates take as relevant the data involving capital circulation. Market and ecological conjugates, however, would be impossible to formulate if restricted to these kinds of data. No amount of observing or explaining demand schedules, price and production figures, supply statistics, and so on, can make systematic our understanding of

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<sup>32</sup>Lonergan, *Insight*, 271. For further details on the notion of abstraction, see *Ibid.*, 111-114.

the goings-on of a market, or tell us how ecologies are inextricably related over whole ranges of flexible schemes.

Finally, ecological experiential and explanatory conjugates take as relevant the data involving flexible circles of ranges of cyclically related events. It would be impossible to formulate market and economic conjugates if restricted to these kinds of data. The interplay between human industry and a whole host of inextricably interrelated ranges of flexible schemes does little to explain instances of the exchange of goods and services, or the circulation of capital.

When we set out to describe and explain human industry, we do so in terms of markets, economies, and more recently, in terms of ecologies. We rarely if ever make such sharp distinctions as we have done here. By mistakenly excluding relevant data, or including irrelevant data in the formulation of our descriptions and explanations, we end up with an undifferentiated theory of human industry. Such, I believe, is the reason marketers, economists, and ecologists confuse and conflate the various meanings of human industry. When we think that markets are just tiny economies, when economists think they are talking about big markets, and when ecologists think human industry is not really as ecological as a rain forest, then we face no end of confusion of relevant data with irrelevant data.

In the next section I ask what exactly is being verified when human industry is empirically verified from the three differentiated aspects of market, economy, and ecology.

### **2.3. Patterns in Human industry**

Bernard Lonergan has invented the phrase 'scheme of recurrence' to refer to events that occur in a systematic and circular relationship. A scheme of recurrence arises such that if A occurs, B will occur; if B occurs, C will occur; if C

occurs, . . . A will recur. The scheme can consist in an almost circular arrangement of events, or it can be complemented by defensive circles, so that if F occurs, G occurs, if G occurs, H occurs; if H occurs, F is eliminated. Schemes of recurrence of events can be simple or intricate <sup>33</sup>

### 2.3.1 *Exchange Schemes*

I shall use the term 'exchange' when referring to the schemes of recurrence associated with market events <sup>34</sup> Schemes of recurrence involving the notion of exchange have long been associated with markets. For instance, Adam Smith made this link over two hundred and twenty years ago when he equated market and exchange, and noted the reciprocity between the division of labour and the extent of the market.

As it is the power of exchanging that gives occasion to the division of labour, so the extent of this division must always be limited by the extent of that power, or, in other words, by the extent of the market.<sup>35</sup>

Jane Jacobs also acknowledges the presence of schemes of recurrence within markets. She calls them 'reciprocating systems' <sup>36</sup> For example, she speaks

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<sup>33</sup>Abstractly, a scheme of recurrence is a combination of classical laws. Lonergan, *Insight*, 141. For Lonergan, the term "classical" pertains to intelligent anticipation of the discovery of functional relations on which the relations between measurements converge. *Ibid*, 91. Scientific anticipation is of some unspecified correlation to be specified, some indeterminate function to be determined. *Ibid*, 62. This abstractive attention to system is the scientific anticipation of what Lonergan has called classical laws. Intelligence can also anticipate the discovery of probabilities from which relative actual frequencies may diverge (albeit, only at random). This is what Lonergan means by the term "statistical." *Ibid*, *Insight*, 91. Whereas schemes of recurrence are, abstractly speaking, combinations of classical laws, concretely, they begin, continue, and cease to function in accord with statistical probabilities. *Ibid*, *Insight*, 91. This is because schemes can form a conditioned series such that ' . . . the schemes P, Q, R, . . . form a conditioned series if all prior members of the series must be functioning actually for any later member to become a concrete possibility. Then the scheme P can function though neither Q nor R exists, the scheme Q can function though R does not yet exist, but Q cannot function unless P is already functioning, and R cannot function unless Q is already functioning.' *Ibid*, 142.

<sup>34</sup>As Lonergan points out, the repetitive economic rhythms of production and exchange are schemes of recurrence. *Ibid*, 141. Piderit concurs that "the free market is a system of exchange." See John J. Piderit, S.J., *The Ethical Foundations of Economics* (Washington D.C.: Georgetown University Press, 1993), 202.

<sup>35</sup>Smith, *Wealth of Nations*, 121.

<sup>36</sup>Jane Jacobs, *The Economy of Cities* (Vintage Books, 1970), 126.

of how market exchange schemes were at work during the initial stages of Detroit's market growth.

When Detroit began its growth in the 1820s and 1830s, its chief export was flour.

Near the flour mills were shacks where [flour] mill machinery was repaired and new parts and machinery were made to equip the growing number of mills. Along the waterfront were small ship yards where passenger ships and ships for the flour trade were built to cross the Lakes. . . . Soon the Detroit yards were building ocean-going cargo vessels. These were not sailboats, but steamships. Detroit shipyards were among the first in the world to build steamships. Just how the work of making the marine engines began is obscure, but it is believed to have been added, by machinists, to the older work which they had been doing for the mills. . . . By the 1860s, marine engines themselves were a major Detroit export.

While the engine business was growing, it was supporting a growing collection of its own suppliers. . . . The most important were the refineries and smelters that supplied copper alloys, made from local ores, to shops where brass valves and other bits of engine brightwork were manufactured. The refineries too began to find customers outside of Detroit, and soon they became so successful that between about 1860 and 1880 copper was Detroit's largest export. . . .

The flour it [Detroit] originally exported was served by the shipyards, which soon began to export their own products. Meanwhile the shipyards were served by the engine makers who soon began to export their own products too and the process repeated itself once again in the case of refined copper.<sup>37</sup>

As Jacobs discovered, the city's exports along with some of the goods and services locally produced to serve that export work, acted together to create a reciprocating system or scheme of recurrence.<sup>38</sup> Exports depended on local services and local services depended on exports in a recurrent and circular fashion.<sup>39</sup>

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<sup>37</sup>*Ibid* , 123-125

<sup>38</sup>*Ibid* , 126.

<sup>39</sup>It must be mentioned that as well as identifying this broad range of schemes of recurrence between export and local production, the above example also shows a conditioned series of schemes of recurrence.

Exchange includes all the transactions of any given market; the physical movement of paper cash and coinage from hand to hand; the barter of goods and services for other goods and services; the exchange of cash for goods and services; the movements of goods and services from location to location for the purpose of exchange, and so on.<sup>40</sup> Such market schemes of exchange can be simple or complex, localized or expansive.<sup>41</sup>

More precisely, let us employ the term 'exchange schemes' to mean those schemes of recurrence associated with human industry as understood by the experiential and explanatory conjugates formulated in terms of market events.

### 2.3.2 Circulation Schemes

Not only are there schemes of recurrence associated with market events, there are also schemes of recurrence involving economic events.

Recall the hypothetical demand curve generated in Figure 2-1. We could easily develop a hypothetical supply curve in a similar fashion. Let us assume the hypothetical supply schedule for shrimp as given in Table 2-5 below.

Table 2-5 Hypothetical supply schedule for shrimp

| Price/lb. | Quantity supplied<br>(pounds per week) |
|-----------|----------------------------------------|
| \$4.00    | 150lbs.                                |
| \$7.00    | 300lbs                                 |
| \$10.00   | 450lbs.                                |
| \$13.00   | 600lbs.                                |
| \$15.00   | 750lbs                                 |
| \$18.00   | 900lbs.                                |

<sup>40</sup>According to Smith, what exactly a person exchanges in the market is "all that surplus part of the produce of his own labour, which is over and above his own consumption, . . ." Smith, Wealth of Nations, 120. In fact, Smith goes so far as to argue that there is no market when there is no use for the surplus of one's labour. See Smith, Wealth of Nations, 122.

<sup>41</sup>"In the case of wheat, the market is very nearly the whole world; in the case of strawberries, it may be only a small area including and surrounding one city; in the case of haircuts, it may be only a few blocks within the city." Lipsey, Economics, 54.



From this we can generate the hypothetical supply curve (see Figure 2-2).<sup>42</sup>

Now let us combine on the same graph, this hypothetical supply curve with the hypothetical demand curve of Figure 2-1 (see Figure 2-3). As any standard economics textbook would tell us, the point of intersection between the two curves represents the price at which the quantity demanded equals the quantity supplied.<sup>43</sup> In our illustration, this price is \$13.00 per pound of shrimp. This is known as the equilibrium price.

The *equilibrium* price is the one toward which the actual market price will tend and the one that will persist once established, unless it is disturbed by some change in market conditions. All other prices are called *disequilibrium prices*. They will not persist, and, if they do occur, the market will not be in a state of rest. At prices below the equilibrium, there will be shortages and rising prices, while at prices above equilibrium, there will be surpluses and falling prices.<sup>44</sup>

As we can tell from the graph, if the price is set lower than the equilibrium price, there is excess demand and upward pressure on price.<sup>45</sup> If the price is set higher than the equilibrium price, there is excess supply and a downward pressure on price. That is to say, any change that influences the quantity supplied will cause a shift in the supply curve; likewise any change that influences the quantity demanded will cause a shift in the demand curve.<sup>46</sup>

Let us first examine the effect of a demand shift (see Figure 2-4). When the demand curve shifts to D-2 (i.e. when demand increases), a shortage of  $qq_2$

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<sup>42</sup>Like demand, supply does not mean actual supply, but willingness to supply at a given price.

<sup>43</sup>Lipsey, *Economics*, 75.

<sup>44</sup>Ibid., 75-76.

<sup>45</sup>Of course this simple illustration does not take into account the elasticity of supply and demand and all the factors which contribute to this. See Lipsey, *Economics*, Chapter Six for a thorough discussion of the implications.

<sup>46</sup>Some factors known to affect supply are a) goals of the supplier, b) state of technology, c) the price of other goods. Some factors known to affect demand are a) preferences, b) level of income, c) income distribution. The supply curve will shift to the right if producers wish to supply more at each price, and to the left if they wish to supply less at each price. Ibid., 74. The demand curve will shift to the right if more is demanded at each price, and to the left if less is demanded at each price. Ibid., 69.

Figure 2-2 Hypothetical supply curve for shrimp

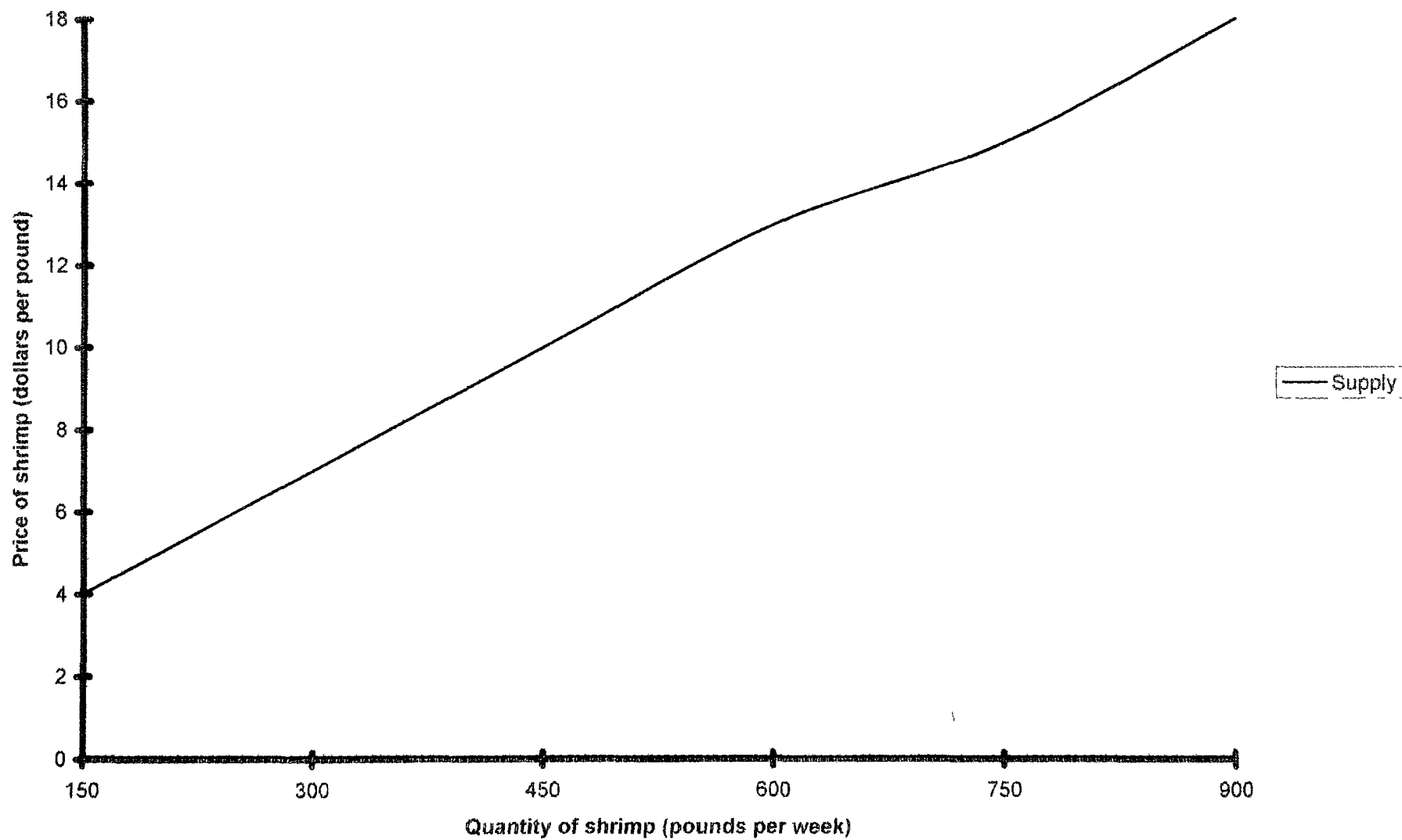


Figure 2-3 Equilibrium price for shrimp

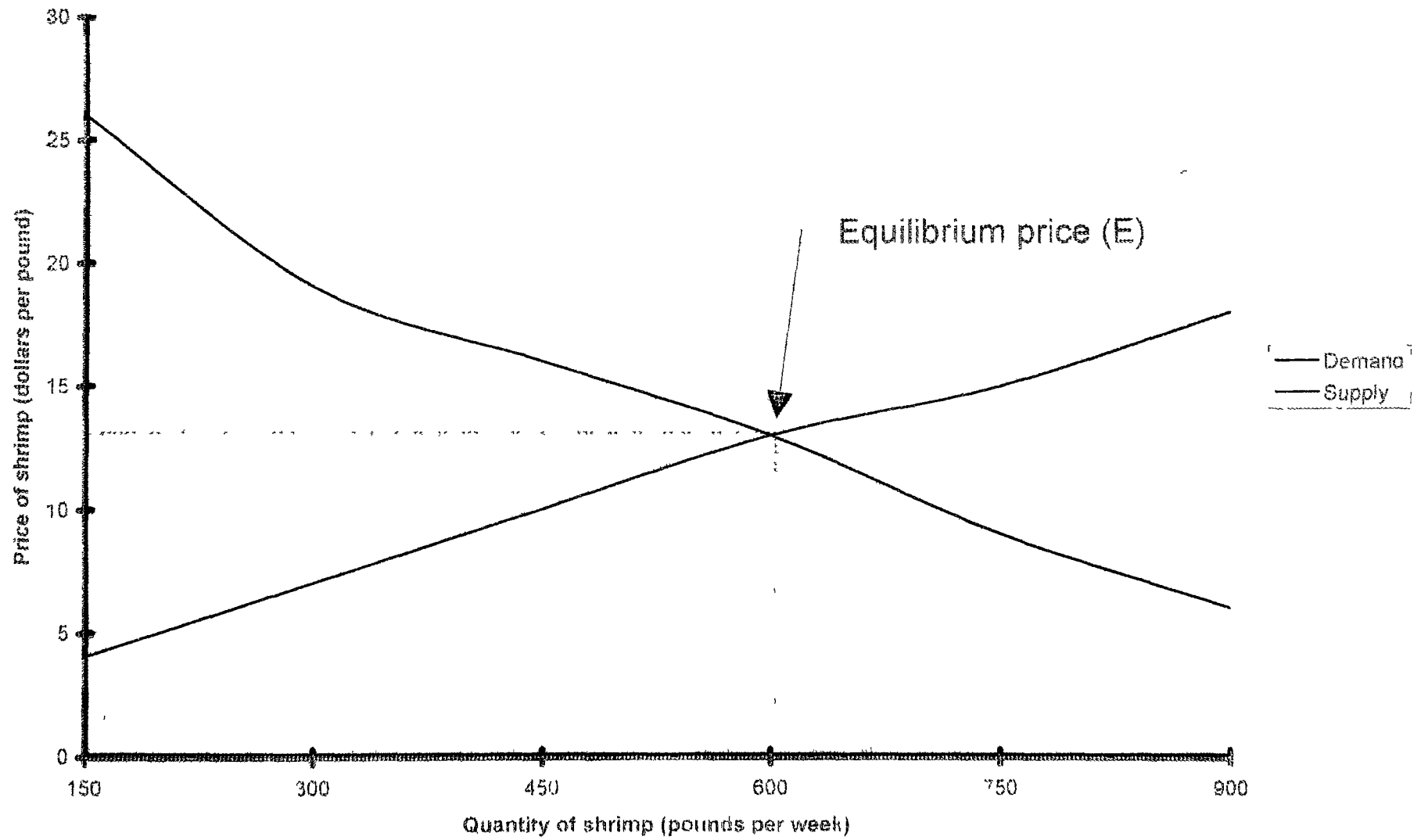
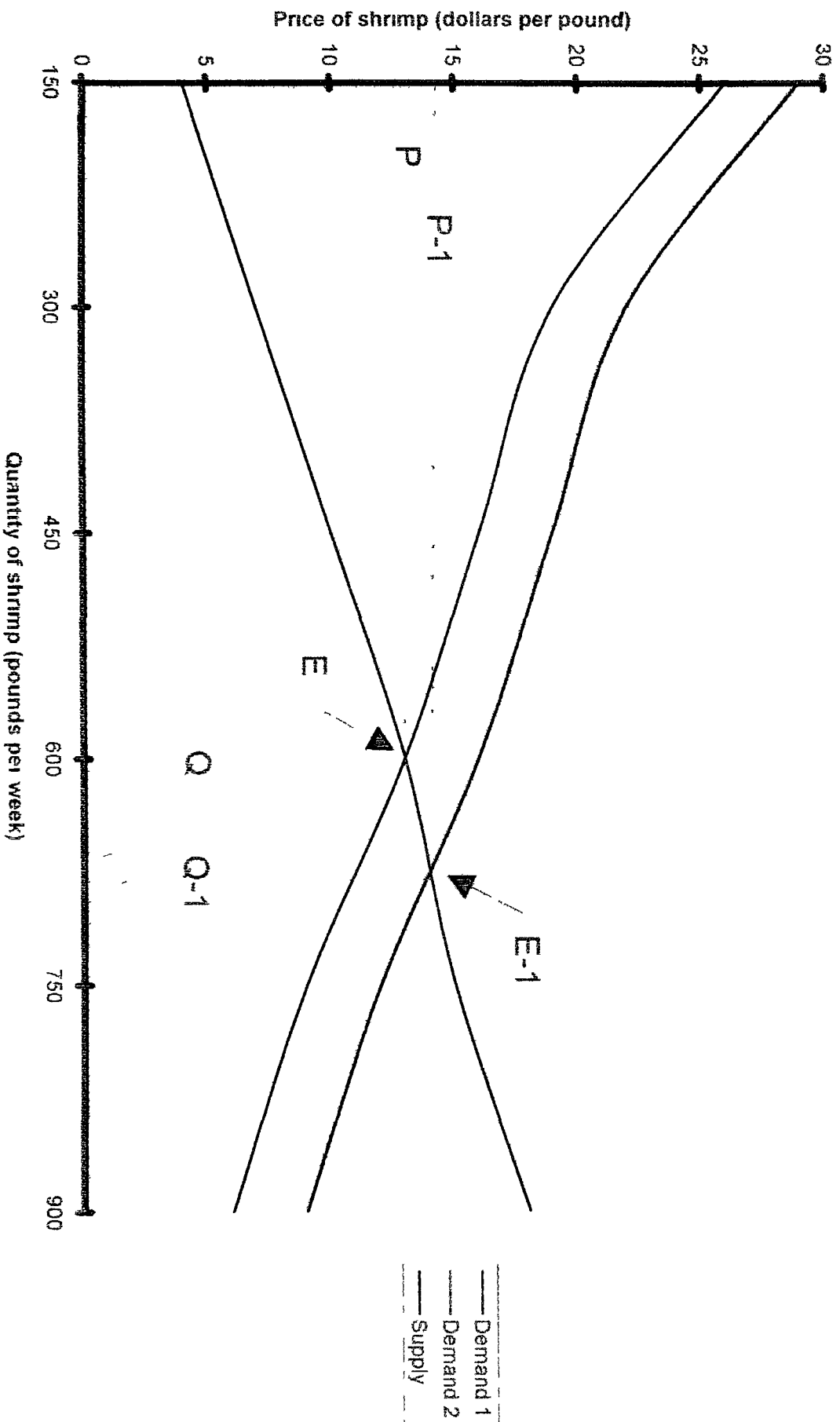


Figure 2-4 Effects of demand shift on equilibrium price



occurs at the original equilibrium price. Whereas customers are willing to buy even more shrimp at that price, it is not worthwhile for the fishmonger to increase the supply to them at this price. Notice that the point of intersection between the supply and demand curves has moved to  $p_1 q_1$ . This is the new equilibrium price at which the fishmonger and the customer are respectively willing to supply and demand an equal amount of shrimp. Likewise, if original demand were represented by the curve  $D_2$ , then the reverse would occur. Therefore a rise in demand causes an increase in both the equilibrium price and the equilibrium quantity. A fall in demand causes a decrease in the equilibrium price and quantity.

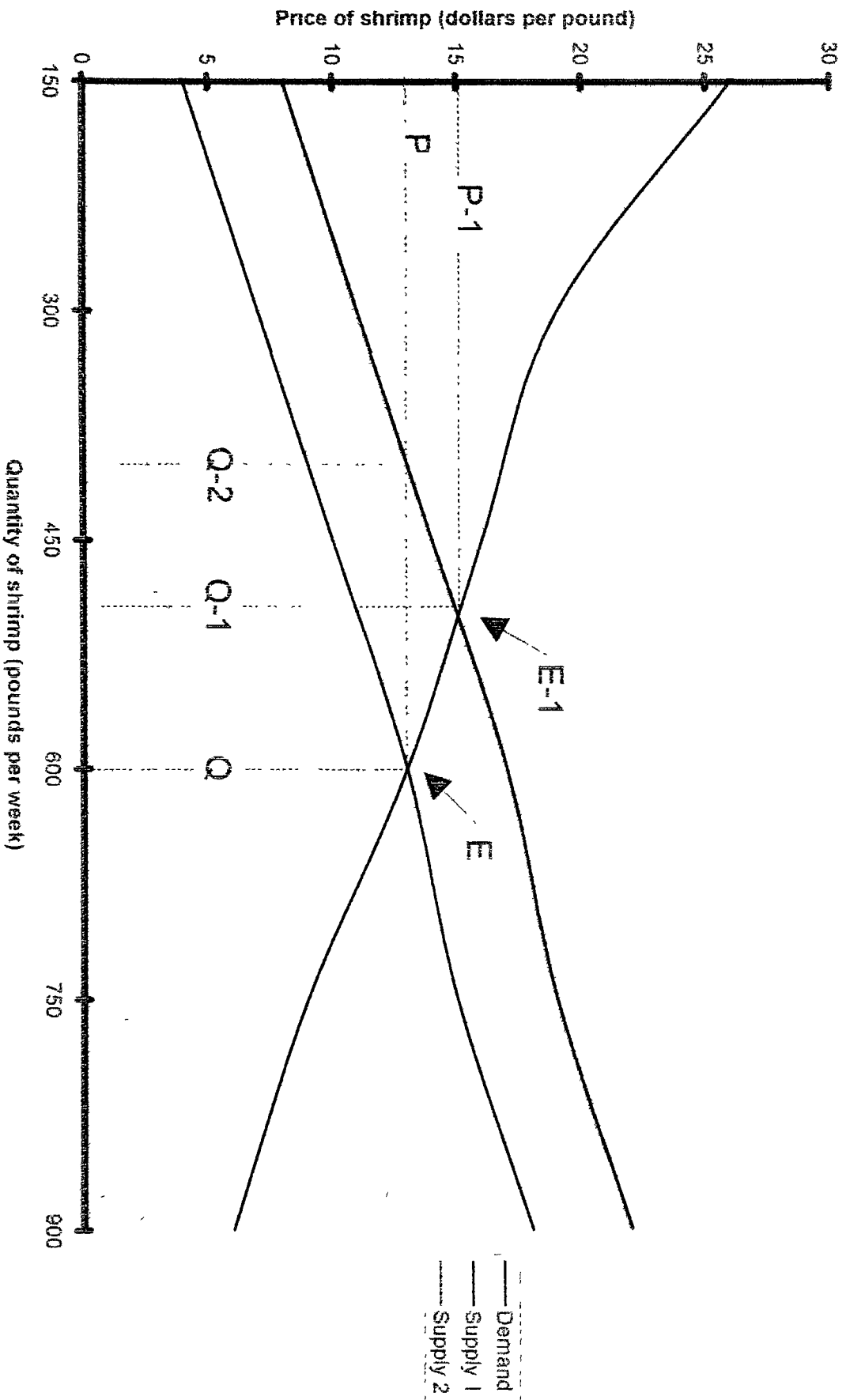
Now let us examine the effect of a supply shift (see Figure 2-5). When the supply curve shifts to  $S_2$  (i.e. when supply decreases), a shortage of  $qq_2$  occurs at the original equilibrium price. Whereas the fishmonger is willing to supply less at this price, customers are willing to buy more at that price. Notice that the point of intersection between supply and demand curves has changed to  $p_1 q_1$ . This is the new equilibrium price at which the fishmonger and the customer are respectively willing to supply and demand an equal amount of shrimp. Likewise, if original supply were represented by the second curve, then the reverse would occur. Therefore a rise in supply causes a decrease in the equilibrium price and an increase in the equilibrium quantity. A fall in supply causes an increase in the equilibrium price and a decrease in quantity.

This classic relationship between supply and demand is a good example of an economic defensive scheme of recurrence.<sup>47</sup> Disturbances in willingness to supply, willingness to demand, or an arbitrary shift in price sets up a

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<sup>47</sup> As Lonergan notes, the economic process, conceived as a form of generalized equilibrium, is an example of the notion of defensive schemes of recurrence. Lonergan, *Insight*, 142.

Figure 2-5 Effect of supply shift on price equilibrium



disequilibrium that is theoretically self-correcting back to a state of equilibrium.<sup>48</sup>

Let us employ the term 'circulation schemes' to mean those schemes of recurrence associated with human industry as understood by the experiential and explanatory conjugates formulated in terms of economic events.

### 2.3.3 *Ecological Schemes*

As Lonergan argues, "an ecology is an interrelated and interconnected set of schemes of recurrence."<sup>49</sup> Patrick Byrne elaborates by saying that ecologies are, more precisely, flexible circles of ranges of schemes of recurrence<sup>50</sup> Consequently, we may say that human industry is understood to be ecological

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<sup>48</sup>Of course much more complex schemes of recurrence persist in the sphere of economics. See Lipsey, Economics, 451 for an example of a typical macroeconomic circular flow model.

<sup>49</sup>Bernard Lonergan, "An Essay in Circulation Analysis, 1980" TMs, 1, quoted in Patrick Byrne, "Economic Transformation: The Role of Conversions and Culture in the Transformation of Economies," in Religion and Culture, eds. T. Fallon and P. B. Riley (Albany, NY: SUNY Press, 1987), 330-331. Jacobs also links schemes of recurrence to ecologies: "The branch of knowledge called ecology is the analysis of reciprocating systems that maintain whole cycles of life in the sea and on the land." Jacobs, Economy of Cities, 126. As Roderick Nash points out, "from its beginnings, ecology concerned communities, systems, wholes." Nash, The Rights of Nature, 55. Another typical definition of ecology is "Ecology is the study of the organisms in their home: it is the study of the structure and function of the organisms and groups of organisms found in nature and their interactions with one another and with their environment." G. Tyler Miller, Jr., Living in the Environment, 3d ed. (Belmont, Calif.: Wadsworth, 1982), 44. Ecology is "the branch of biology dealing with living organisms' habits, modes of life, and relations to their surroundings." See McCloskey, Ecological Ethics, 3. Theologian Shantilal P. Bhagat says that an ecology attempts to understand the complex web of interactions and interdependencies in a particular environment or ecosystem. Bhagat, Creation in Crisis, 45. Theologian Sallie McFague distinguishes rather arbitrarily between two components of an ecosystem: "An ecosystem has two basic components, the abiotic ones (such as soil, water, chemicals, atmosphere, gases, sunlight, temperature, and so on) and the biotic components (the producers, the consumers, and the decomposers)." McFague, The Body of God, 59. Paul E. Lutz makes the same separation: "that area of human understanding that deals with the interrelatedness between living things and the non-living environment is *ecology*, it is more specifically defined as that branch of science that deals with the structure and function of nature." Paul E. Lutz, "Interrelatedness: Ecological Patterns of the Creation," in Cry of the Environment: Rebuilding the Christian Creation Story, eds. Philip N. Joranson and Ken Butigan (Santa Fe, N.M.: Bear and Co., 1984), 253. In each of these definitions we can see an implicit notion of flexible ranges of schemes of recurrence. For a fine but brief history on the concept of an ecology see Bhagat's Chapter Three. Perhaps the definitive history of ecology as science and philosophy is Donald Worster's, Nature's Economy: The Roots of Ecology (San Francisco, 1977).

<sup>50</sup>Patrick Byrne, "Teleology, Modern Science and Verification," TMs [photocopy], p. 16, Department of Philosophy, Boston College, Chestnut Hill, MA.

when its schemes of recurrence are understood to be flexibly and inextricably interconnected and interrelated to other ranges of non-market and non-economic schemes. In contrast to the ecological perspective, the economic perspective seems to regard schemes of recurrence (like the law of supply-demand equilibrium) surrounding human industry to be more rigid and periodic.<sup>51</sup>

Leopold gives us a vivid example of insights into the ecological nature of human industry in the vignette, "Bur Oak."<sup>52</sup> This story is an explanation of why, historically, the boundary between prairie and forest in Wisconsin remained fairly constant until settlers disturbed the defensive schemes in place. Leopold explains that April prairie fires annually cleared every type of vegetation in their path except maturing bur oaks whose cork-like bark was thick enough to protect the trees from the heat of fires. Rabbits and mice "mowed down the prairie herbs in summer, and in winter girdled any oak seedlings that survived the fires."<sup>53</sup> Squirrels planted acorns in fall and ate them all the rest of the year. June beetles ate prairie sod as grubs and then they ate oaks as adults. The rabbits and mice disrupted the growth of the prairie foliage, but their survival into the winter by doing so ensured the disruption of the growth of oaks which would otherwise overtake the prairie; the squirrels disrupted the growth of the oak forests by feeding on the acorns, but their survival into the autumn by doing so ensured the rebirth of more trees and so halted the advance of the prairie; the June beetles disrupted the growth of the prairie sod as larvae, but their survival by doing so ensured the disruption of the growth of oak trees. We can see the interplay

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<sup>51</sup>Loneragan stresses that the notion of flexible circles of ranges of schemes of recurrence is in contrast to rigid and fixed periodicity. Loneragan, *Insight*, 485.

<sup>52</sup>Leopold, *Sand County Almanac*, 26

<sup>53</sup>*Ibid.*, 27.



between defensive schemes of recurrence of events and how disruptions are eliminated and an overall equilibrium is maintained.

But the interplay between the defensive schemes was radically altered in the 1840's when settlers intervened in this prairie battle and, by plowing the land, unintentionally deprived "the prairie of its immemorial ally: fire."<sup>54</sup> The plowing of fields meant a decrease in fires and that resulted in an increase in oak forestation which eventually overtook the prairie. The defensive schemes were broken down and the prairie eventually receded while the forests advanced.

Seedling oaks forthwith romped over the grasslands in legions, and what had been the prairie region became a region of woodlot farms. If you doubt this story, go count the rings on any set of stumps on any 'ridge' woodlot in southwest Wisconsin. All the trees except the oldest veterans date back to the 1850s and the 1860s, and this is when fires ceased on the prairie.<sup>55</sup>

Let us determine the flexible circles of ranges of schemes of recurrence here. First, there are many schemes of recurrence involved; the life cycles of rabbits, mice, squirrels, June beetles, bur oaks, prairie grasses, and the schemes involving farm economy. Secondly, there are whole ranges of schemes; there are schemes linking herbivores with vegetation, vegetative schemes with recurrent prairie fires, fire with the economic schemes of farming. Thirdly, the ranges of schemes display a flexible circularity. There is a flexibility in the circular relationships between life-cycle schemes, plant, animal and economic schemes. There are fluctuations in populations of rabbits, mice, beetles, and farmers. There are fluctuations in occurrences of fires; there are shifts back and forth in the boundary between prairie and forest. All of these fluctuations, in the midst of an overarching recurrence of interrelated events attests to the flexibility of the ranges of schemes of recurrence. Furthermore, economic activity is understood

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<sup>54</sup>Ibid. , 29.

<sup>55</sup>Ibid. , 29.

by Leopold to be a component of this over-arching flexible circle of ranges of schemes of recurrence. Human industry is understood to be ecological.

Let us employ the term 'ecological schemes' to mean those schemes of recurrence associated with human industry as understood by the experiential and explanatory conjugates formulated in terms of flexible circles of ranges of schemes of recurrence.

#### **2.3.4 *Summary***

What is empirically verified through experiential and explanatory conjugates are the schemes of recurrence associated with market, economic, and ecological events.

'Exchange' is the term used forthwith to explain the schemes of recurrence associated with human industry as understood in terms of the experiential and explanatory conjugates that are formulated based on insights into the relations of market events.

'Circulation' is the term used forthwith to explain the schemes of recurrence associated with human industry as understood in terms of the experiential and explanatory conjugates that are formulated based on insights into the relations of economic events.

'Ecology' is the term used forthwith to explain the schemes of recurrence associated with human industry as understood in terms of the experiential and explanatory conjugates formulated based on insights into the over-arching flexible circles of ranges of such schemes of recurrence of events.

### **2.4. Higher Viewpoints**

So far I have argued that human industry involves different kinds of events, that our experiences and explanations are formulated in terms using distinct kinds of conjugates that correspond to these different kinds of events,

and that the resulting intelligible patterns or schemes of recurrence are distinct. But are all these distinctions merely arbitrary? Is the separation of human industry into distinct kinds of events, conjugates, and schemes just technical obfuscation or is there some implicit pattern to our understanding of these three kinds of events which justifies their differentiation? What is our criteria for distinguishing these events in the first place? In this section I shall turn to these questions and show that markets, economies, and ecologies are distinctive because they involve successively higher and discrete viewpoints.

#### ***2.4.1 Explanatory Differentiation of Higher Viewpoints***

Since explanatory conjugates are defined by their relations to one another, there is the possibility of distinct sets of conjugates in which there is no transition from one system to another. As one moves from one set of conjugates to the next, there is added a new set of laws which defines its own basic terms by its own empirically established correlations.<sup>56</sup> Thus the different experiential and explanatory conjugates employed to describe and explain market events, economic events, and ecological events give rise to the possibility of distinct sets of market conjugates, economic conjugates and ecological conjugates.

This possibility of distinct sets of conjugates lies in the somewhat perplexing relationship between events and conjugates. What distinguishes one set of laws from the next is discovered in the concomitance and complementarity between conjugates and events.<sup>57</sup>

Loneragan's cognitional theory holds knowing to include the combined activities of experiencing, understanding, reflecting and judging. An act of understanding is an insight; it meets questions for intelligence and finds its

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<sup>56</sup>Loneragan, *Insight*, 280-281.

<sup>57</sup>*Ibid.*, 106.

formulation in terms of the experiential or explanatory conjugates that differentiate between things.

However, for every answer to a question for intelligence at the level of understanding, there is a corresponding question for reflection at the level of judgment. In one of our previous examples, the fishmonger might have posed the question for intelligence, What is the relationship between price and demand? The answer would be formulated in terms of economic experiential and explanatory conjugates. In terms of experiential conjugates he might notice from his records that shrimp prices and the amount of shrimp sold varied from day to day. In terms of explanatory conjugates, he might formulate the demand curve we have already generated. From the insights obtained by posing and answering these questions for intelligence, he goes on to pose the concomitant and complementary question for reflection, Does the price of shrimp affect customer demand? Here the simple judgment of 'yes' or 'no' will suffice.<sup>58</sup> Notice that the questions for intelligence have given rise to the definition of the terms to be verified; i.e. it is the correlation between price and demand that is to be verified. The corresponding question for reflection has given rise to the affirmation or denial of the occurrence of that which is defined by the terms framed in the question for intelligence; i.e. he can answer 'yes' or 'no' that there is or is not a correlation between price and demand. Therefore, the questions for intelligence and reflection are concomitant and complementary. Without events or instances, conjugates cannot be defined or verified, for definition and verification of the conjugates, as formulated through questions for intelligence, requires the occurrence of an event in which the corresponding question for reflection can be responded to with 'yes'. And in reverse, without conjugates, events can neither

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<sup>58</sup>Ibid. , 106, 304 .

be distinguished nor related, for the relation of the individual events, each of which is verified through response to a question for reflection, requires the conjugate in which the corresponding question for intelligence first formulates tentative relationships between the data. Therefore, "events stand to conjugates as questions for reflection stand to questions for intelligence" (see Table 2-6).<sup>59</sup>

**Table 2-6 Conjugates and events**

| <b>Question for Intelligence</b><br>(how does X work?)  | <b>Question for Reflection</b><br>(is this a case of x?)               |
|---------------------------------------------------------|------------------------------------------------------------------------|
| <b>Conjugate</b><br>(the descriptions and explanations) | <b>Event</b><br>(an instance of that which is described and explained) |

And so, the conjugates that become defined and verified depend upon the particular set of events that are distinguished and related. Likewise, the events one distinguishes and relates depends upon the experiential and explanatory conjugates one formulates.<sup>60</sup>

Consequently, if some events surrounding human industry are distinguished and related, while others remain residual, or are left out so to speak, then there will be defined and verified a distinct set of conjugates. Furthermore, if there is a distinct set of conjugates defined and verified, they will be defined and verified by an appeal not to all events but only to a particular set of events. From the outset of this chapter, I have argued that empirical investigators of human industry can distinguish and relate certain sets of events, while prescinding from others (this is the necessary result of abstracting data

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<sup>59</sup>Ibid , 106

<sup>60</sup>As Lonergan mentions, it is this complementarity and concomitance between conjugates and events that "is meant by the otherwise puzzling name 'event' Ibid , 106 Therefore, we began the inquiry of this chapter using the term 'event' to distinguish between the event-conjugate schemes related to market, economic and ecological aspects of human economic activity By 'event' we did not mean some movement or activity understood as an instance happening 'out there.'

during the quest for empirical verification of formulations) The aggregate of otherwise systematically recurring events that remain outside the investigator's complementary and concomitant event-conjugate schemes remain merely coincidental.<sup>61</sup> "An aggregate is coincidental if (1) the members of the aggregate have some unity based on spatial juxtaposition or temporal succession or both, and (2) there is no corresponding unity on the level of insight and intelligible relation "<sup>62</sup> It is this leftover coincidental aggregate of otherwise systematically recurring events and the fact that existing conjugates don't account for them, that gives rise to the possibility of the higher viewpoint

To argue that a market, an economy, and an ecology are each to be considered from distinct viewpoints is to argue that at each level there is a set of conjugates and a left-over aggregate of events not explained by those conjugates that is, nevertheless, explained when one considers that aggregate from a next more comprehensive aspect <sup>63</sup>

From this, we can see that verification of any one of the three distinct viewpoints I have called markets, economies and ecologies, would require four steps Firstly, that we demonstrate that the particular viewpoint accounts for an

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<sup>61</sup>Lonergan calls these "mere patterns of happy coincidences " Lonergan, *Insight*, 281 The move to the higher viewpoint does not involve systematically occurring events already accounted for by known schemes of recurrence, nor does it involve randomly occurring events, for in this case their intelligibility is a question for statistical method, and the question of non-systematic divergence from a probability Ibid , 121ff and 463

<sup>62</sup>Ibid , 73 Likewise, 'the several insights by which the several parts of nonsystematic process are understood form another coincidental aggregate. For they are a multiplicity on the level of intelligibility, but they possess some unity from the spatio-temporal unity of the process "

<sup>63</sup>To put it another way, the existence of statistical residues is the possibility of higher integrations, that is to say on each earlier level of systematization there are statistical residues that constitute the merely coincidental manifolds to be systematized on the next level Higher laws and higher schemes of recurrence cannot be deduced from lower laws and lower schemes of recurrence, because the higher is engaged in regulating what the lower leaves merely coincidental Thus the significance of the canon of statistical residues is that it makes possible an account of the autonomy of the successive departments of science Ibid , 631 For a discussion of the rather complicated notion of a statistical residue and its relationship to the coincidental aggregate of events, see Ibid , 117-125

aggregate of juxtaposed events with a unity on the level of insight and intelligible relation as formulated through a set of conjugates and related through schemes of recurrence. Secondly, that conjugates of the given viewpoint are defined implicitly by their relations to one another. Thirdly, that we demonstrate the persistence of coincidental aggregates of systematically recurring events that remain unverified through the formulated conjugates and remain unrelated through the schemes of recurrence of the lower viewpoint. Fourthly, that the systematically recurring conjugates of some next higher viewpoint can provide the basis for declaring these coincidental aggregates of events as having unity on the level of insight and intelligible relation.

Let us see if the schemes I have called markets, economies and ecologies satisfy these requirements and form a succession of higher viewpoints.

A market could be a distinct viewpoint. It has aggregates of intelligibly related events; these are the aggregates of exchange events. In a previous example, Jane Jacobs accounts for the aggregate of interrelated events on her street. The relationship of these events to one another is formulated in terms of conjugates that give rise to schemes of recurrence of events. I have called these market schemes 'exchange schemes' and our example has been taken from Jacobs' work on industrial development in Detroit. Market conjugates are defined by their relations to one another insofar as aggregates of market events are complementary and concomitant with market conjugates. Jacobs' explanatory conjugates linking aggregates of primary industrial activity and secondary service activity are defined by their relationship to one another.

However there are whole ranges of otherwise systematically recurring economic events which remain coincidental in terms of the complementarity between market conjugates and market events. Fluctuations in price due to

changes in supply and demand, alterations in the patterns of capital flow, resultant changes in GNP, and consequent shifts in employment rates come to mind. While these kinds of events may be acknowledged to be spatially and temporally juxtaposed to market events, they are not functionally related to market conjugates at the level of insights into intelligible relations. Market conjugates alone cannot account for any systematically recurring relationships among aggregates of aggregates of these diverse types of economic events.

Therefore, an economy could involve the next higher viewpoint. Some of the aggregates of otherwise systematically recurring events left coincidental by the conjugates formulated in terms of markets do possess a unity on the level of insight and intelligible relation when formulated in terms of the conjugates associated with economic events. In our example above, the fishmonger comes to understand something about the circulation of capital that could not be learned in terms of exchange. He tabulated the events of fluctuating prices, supply, and demand. He formulated experiential and explanatory conjugates that are concomitant and complementary to those events as witnessed by the generated supply and demand curves. He discovered schemes of recurrence involving those events when he discovered the equilibrium price for shrimp. He found out how supply and demand have an impact on the flow of capital into his business. These new economic conjugates are defined by their implicit relations to one another too; the correlations of price and time, and the correlations of demand and time are inextricably related to the correlations of correlations of correlations that give rise to the demand function and his insights about the circulation of capital.

Like market conjugates, however, there are also whole ranges of coincidental aggregates of otherwise systematically recurring events that remain



unaccounted for by economic conjugates.<sup>64</sup> In our example, such events as declining shrimp stock, genetic mutations from the introduction of free radicals into the water, the reproductive life cycle of shrimp in relation to other fishes in its food chain, the weather conditions and currents that effect stock levels, disease, etc. cannot be determined by the conjugates associated with economic events. Nevertheless, they have some relationship to economic and market events based on spatial juxtaposition or temporal succession, but there is no corresponding unity in terms of insights and intelligible relations at the level of economic conjugates or market conjugates. Economic conjugates and market conjugates cannot account for any systematic relationship between whole flexible circles of ranges of schemes of recurrence I have called ecologies.

Finally, then, an ecology could be the next higher viewpoint. It has its set of conjugates which considers an aggregates of events and acknowledges a set of schemes of recurrence. But the events, their schemes of recurrence, and their concomitant and complimentary conjugates are a different kind than those of the economy. An ecology is not concerned with aggregates of market events alone, nor aggregates of aggregates of economic events, but with flexible circles of ranges of these schemes in relation to any other discovered schemes. Aldo Leopold, for instance, constantly relates market, economic, and environmental events in complex flexible circles of ranges of schemes of recurrence. He formulates experiential and explanatory conjugates that are concomitant and complementary to both the market events and the non-market and non-economic events, and he discovers vast malleable patterns involving the relationships between all.

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<sup>64</sup>The more recent efforts by ecological economists to deal with externalities would appear to be implicit attempts to grasp a higher viewpoint insofar as such attempts seek to account for coincidental aggregates of event-conjugate schemes that remain unaccounted for in classical and neo-classical economics and traditional market analysis. See also footnotes # 8.

### 2.4.2 *Summary*

As one moves from market conjugates to economic, to ecological, there is added a new set of laws which defines its own basic terms by its own empirically established correlations. The basis for these distinct sets of conjugates lies in the relationship between events and conjugates. What distinguishes one set of laws from the next is discovered in the concomitance and complementarity between conjugates and events. This is why market, economic, and ecological events are fundamentally different.

Moreover, it seems that explanatory conjugates formulated in terms of market events, economic events, and ecological events form a hierarchy of viewpoints. Lonergan speaks about the general case of such higher viewpoints.

Again, we have spoken of higher viewpoints. For a while, intelligence works along with data, under the guidance of certain insights and formulations. When it comes up against difficulties, intelligence starts all over again, reformulating all of its fundamental conceptions. That is the result of further insights that constitute a higher viewpoint with respect to the previous insights.<sup>65</sup>

As we shall see in the next section, this emergence of higher viewpoints, taken here from the perspective of cognitional operations, also has its ontological counterpart.

## 2.5. Forms of Human Industry

The notion of transformation undergirds much discussion surrounding sustainable economic development. But one can hardly discuss transformation without first defining what is meant by the word 'form.' Since I shall take up a discussion of economic transformation in Chapter Four, it is now necessary to

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<sup>65</sup>Lonergan, *Understanding and Being*, 204.

link this idea of a hierarchy of explanatory viewpoints to its ontological equivalent found in the notion of 'form.'

### 2.5.1 *Potency, Form, and Act*

Being is defined by Bernard Lonergan as "the objective of the pure desire to know."<sup>66</sup> It is all that is known, and all that remains to be known.<sup>67</sup> What is known and remains to be known is said by Lonergan to be proportionate to one's experience, understanding, and judgment. This he calls proportionate being. "For proportionate being is whatever is to be known by experience, intelligent grasp, and reasonable affirmation."<sup>68</sup> A first general point can be made. Human industry is real if it is known or is to be known by experience, intelligent grasp, and reasonable affirmation.

As mentioned earlier, in Bernard Lonergan's cognitional theory, knowing comprises the three distinct components of experiencing, understanding, and judging.<sup>69</sup> In Lonergan's metaphysics, there are ontological elements that correspond to these three cognitional elements of knowing. Corresponding to the cognitional operation of experiencing, there is the ontological element of potency. 'Potency' is "the component of proportionate being to be known in fully explanatory knowledge by an intellectually patterned experience of the empirical residue."<sup>70</sup> Corresponding to understanding there is the metaphysical element

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<sup>66</sup>Lonergan, *Insight*, 372.

<sup>67</sup>Ibid. , 374.

<sup>68</sup>Ibid. , 456. In terms of the heuristic notion, being is the supreme heuristic notion; it is the to-be-known through any content of knowing. Ibid. , 380, 546. An integral heuristic structure is the ordered set of all heuristic notions. Ibid. , 416-17. Metaphysics is the conception, affirmation, and implementation of the integral heuristic structure of proportionate being.

<sup>69</sup>See also Ibid. , 456-457.

<sup>70</sup>Ibid. , 457. Theoretically speaking, the empirical residue (1) consists in positive empirical data, (2) is denied any immanent intelligibility of its own (even though this is not a denial of experience or description), and (3) is still connected with some higher intelligibility of notable importance. See Ibid. , 50-56. In common sense terms, the empirical residue is what remains after intelligence grasps a given intelligibility in the data. A classic example of the effects of the empirical residue would be Newton's discovery that constant velocity and rest are identical explanatory states. His

of form. 'Form' denotes the component of proportionate being to be known by understanding things in relation to one another. Corresponding to the cognitional activity of judging, there is the metaphysical element of act. " 'Act' denotes the component of proportionate being to be known by uttering the virtually unconditioned yes of reasonable judgment."<sup>71</sup> The relationship between the ontological and cognitional elements are given in Table 2-7.<sup>72</sup>

Table 2-7 Correspondence between knowing and being

| Cognitional | Experiencing | Understanding | Judging |
|-------------|--------------|---------------|---------|
| Ontological | Potency      | Form          | Act     |

### 2.5.2 Conjugate Forms of Human Industry

Within rationally guided inquiry into human industry, there are two heuristic principles at play.<sup>73</sup> These principles give rise to the ontological notion of conjugate form.

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insight here was to realize that, even though the data on motion and rest would indicate that motion and rest are quite different, the data are in fact to be denied any immanent intelligibility of their own. Actually, Newton's discovery that there is no immanent intelligibility in the positively given data of rest-velocity represents what Lonergan has called an 'inverse insight.' And it is the inverse insight which is very often associated with the empirical residue. An inverse insight grasps that the point is that there is no point! For more detail on the notion of an inverse insight see *Ibid.* , 43-50. The significance of potency is that whatever is experienced is the 'raw material' of one's explanations and descriptions. Experiences of market data, economic data, and ecological data are bound to lead to different descriptions and explanations.

<sup>71</sup>*Ibid.* , *Insight*, 457. A virtually unconditioned judgment involves (1) a conditioned, (2) a link between the conditioned and its conditions, and (3) the satisfaction of the conditions. "Hence a prospective judgment will be virtually unconditioned if (1) it is the conditioned, (2) its conditions are known, and (3) the conditions are fulfilled." *Ibid.* , 305.

<sup>72</sup>See *Ibid.* , *Insight*, 535. It is important to note that there is a unity in the cognitional activities of experiencing, understanding, and judging, such that there is a spontaneous movement from experience to understanding, to judgment. Likewise, there is also a unity in the metaphysical elements of potency, form, and act, such that all three are components in a single proportionate being. *Ibid.* , 457. For a comparison and contrast between Lonergan's, Aristotle's and Aquinas' version of potency, form and act, see *Ibid.* , 458-459.

<sup>73</sup>More will be said about heuristics in Chapter Five. For now let us define 'heuristic' simply as a principles of discovery.

The first is that similars are understood similarly, that a difference of understanding presupposes a significant difference of data. The second is that the similarities relevant to explanation lie not in the relations of things to our senses but in their relations to one another. Next, when these heuristic principles are applied, there result classifications by sensitive similarity, then correlations, and finally the verification of correlations and of systems of correlations. But verified correlations necessarily involve the verification of terms implicitly defined by the correlations; and they do not involve more than such implicitly defined terms as related, for what is verified accurately is not this or that particular proposition but the general and abstract proposition on which ranges of ranges of particular propositions converge. Accordingly, there is a fundamental heuristic structure that leads to the determination of conjugates, that is, of terms defined implicitly by their empirically verified and explanatory relations. Such terms as related are known by understanding, and so they are forms. Let us name them conjugate forms. Since such forms are verified in the empirical residue of experience, they constitute unities with conjugate potencies and conjugate acts.<sup>74</sup>

Let us examine the major points individually. First, a difference of understanding presupposes a significant difference of data. Thus if human industry is understood in terms of markets, there is presupposed a set of data which is different from economic data or ecological data. Likewise with understanding human industry in terms of economies or ecologies; each presupposes data which is distinct from the data giving rise to the alternate understanding of human industry. Secondly, there results classification by sensitive similarity, then correlations, and finally the verification of correlations and systems of correlations. Thus we have distinct experiences, understanding, and judgments surrounding market, economic, and ecological activity. Thirdly, verified correlations only involve the verification of terms implicitly defined by the correlations. One cannot verify market correlations in terms of economic or ecological terms. One cannot verify economic correlations in terms of markets or ecologies. One cannot verify ecological correlations in terms of market or economic terms. Finally, if there are terms defined implicitly by their empirically

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<sup>74</sup>Lonergan, Insight, 460-461.

verified and explanatory relations, then there are corresponding conjugate forms behind these defined terms. Thus if market events have empirically verified and explanatory relations, then there is a market conjugate form to human industry. If economic events have empirically verified and explanatory relations, then there is an economic conjugate form to human industry. And if ecological events have empirically verified and explanatory relations, then there is an ecological conjugate form to human industry. In conclusion, if there are market, economic and ecological events, if there are distinct kinds of conjugates that correspond to these different kinds of events, if there are corresponding schemes of recurrence, then there can be market, economic, and ecological conjugate forms.

Furthermore, as mentioned above, since conjugate forms are verified in the empirical residue of experience, they constitute unities with conjugate potencies and conjugate acts. Conjugate form implies conjugate potency and conjugate act.<sup>75</sup> Since conjugate forms are verified in spatio-temporal continua, conjunctions, and successions, "these aspects of the empirical residue are to be deputed to conjugate potency."<sup>76</sup> That is to say, conjugate potency leaves open what exactly the formulation of the grasp of human industry is to be. For this reason human industry can take various forms, three of which I have endeavoured to identify.

But perhaps most importantly, there is conjugate act. Conjugate act is occurrence or event, or instance, because what occurs is defined explanatorily by appealing to conjugate form.<sup>77</sup> And so now we can see that there is not only a concomitance and complementarity between conjugates and events, as demonstrated earlier, but also, this concomitance and complementarity has an

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<sup>75</sup> Ibid. , 461-462.

<sup>76</sup> Ibid. , 462.

<sup>77</sup> Ibid. , 462.

ontological correspondence in that there is complementarity and concomitance between conjugate form and act. This is the crucial significance of events.

The correspondence between the cognitional elements and the ontological elements of conjugate potency, form, and act are presented in Table 2-8.

**Table 2-8 Correspondence of conjugate form and knowing**

|                    | <b>Experience</b>                               | <b>Understanding</b>                                    | <b>Judgment</b>                                                        |
|--------------------|-------------------------------------------------|---------------------------------------------------------|------------------------------------------------------------------------|
|                    |                                                 | <b>Question for Intelligence</b><br>(how does x work?)  | <b>Question for Reflection</b><br>(is this a case of X                 |
| <b>Cognitional</b> |                                                 | <b>Conjugate</b><br>(the descriptions and explanations) | <b>Event</b><br>(an instance of that which is described and explained) |
| <b>Ontological</b> | <b>Conjugate Potency</b><br>(empirical residue) | <b>Conjugate Form</b><br>(conjugates)                   | <b>Conjugate Act</b><br>(event)                                        |

The significant point is that the form taken on by human industry depends on one's understanding of the events, and one's verification of the events depends on one's understanding. If one's understanding of human industry is limited to market conjugates, then human industry will be judged to include market events. In this case, human industry would have a market conjugate form. If one's understanding of human industry is limited to economic conjugates, then human industry will be judged to include economic events. In this case, human industry would have an economic conjugate form. If one's understanding of human industry is limited to ecological conjugates, then human industry will be judged to include ecological events. It would have an ecological conjugate form. Finally, if one's understanding of human industry involves a combination of these kinds of explanatory conjugates, or any other kinds, then human industry will take on an alternate form. As mentioned earlier,

because such sharp differentiation as this is a rarity, it is not surprising that we speak of the form of human industry as some amorphous hybrid of these three distinct forms.

### 2.5.3 *The Hierarchy of Conjugate Forms*

As we have seen in previous sections, the intelligible relations that link events of human industry seem to involve distinct and successively higher explanatory viewpoints that begin with market conjugates, then advance to economic conjugates, then go even further to ecological conjugates. The idea of a higher viewpoint also provides us with an analogy for the hierarchy of conjugate forms.

The conjugate *acts* [my italics] of a lower level, insofar as they occur regularly and are accounted for by the laws and schemes of recurrence of the lower level, pertain simply to that lower level. If, on the other hand, there is a regularity in the conjugate acts of a lower level that is not accounted for by that level, then there is an information of that lower level by conjugate forms of a higher level.<sup>78</sup>

One must be careful here. Lonergan declares that if conjugate acts (i.e. events) occur and they are not accounted for by lower conjugates, then there is information by higher conjugate forms. In other words, systematically recurring events that remain coincidental when considered from the aspect of the lower conjugate form, necessarily imply a higher conjugate form. If one can reasonably admit systematically occurring economic events like fluctuations in GNP, interest rates, etc., then one must declare the market form to be insufficient, for there is an information upon the market conjugate acts, or events, by a higher-ordered conjugate form I have named the economic form. Furthermore, if one admits systematically occurring ecological events like the host of environmental changes noted by Leopold, then one must declare the market form and the economic form

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<sup>78</sup>Lonergan, Understanding and Being, 205



to be insufficient alone, for there is an information upon the economic conjugate acts by a higher-ordered conjugate form I have called an ecological form.<sup>79</sup>

The review of the literature and the examples show empirically that we do indeed verify market, economic and ecological events or conjugate acts (albeit frequently in a conflated fashion) In its ontological aspect this is equivalent to verifying market, economic and ecological conjugate forms.<sup>80</sup> Insofar as there is the possibility of a hierarchy of viewpoints, as noted above, there is an equivalent possibility of a hierarchy of forms of human industry.

## 2.6. Conclusion

Insofar as current common sense approaches to development remain unsustainable, human industry is in need of some change, some transformation. But before we can intelligently discuss transformation, we must determine the meaning of the 'form' that is to be transformed. This has been the task of Chapter Two. Our aim has been to show that human industry can be differentiated and understood in terms of market form, economic form, and ecological form. This lays the groundwork for a later inquiry into the meaning of economic transformation.

I have argued 1) that human industry involves different kinds of events, 2) that our experiences and explanations are formulated in terms of distinct kinds of

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<sup>79</sup>For this reason we began our inquiry by discussing events. Events are not 'happenings' we take a look at, they are already affirmed conjugates, and as such they are conjugate acts that already have conjugate forms. In this sense events are not occurrences that we look at and then make sense out of. It is by the kinds of events we declare to be real that we determine the form of human economic activity implicitly operative, not the other way around. In this way Lonergan's analysis is a radical departure from other interpretations of human economic activity. We will discuss the philosophical implications in Chapter Five under the heading of 'intellectual conversion.'

<sup>80</sup>Jane Jacobs work, standard economics text books, and Aldo Leopold's work were our simple examples but much of the literature cited in Chapter One could provide further evidence for the interested reader.

conjugates that correspond to these different kinds of events, 3) that the resulting intelligible patterns or schemes of recurrence are distinct, 4) that these schemes represent a hierarchy of viewpoints, and 5) that the viewpoints pertain to markets, economies, and ecologies as different conjugate forms, also arranged in a corresponding hierarchy.

Because human industry can take on different forms, we may be suspicious that 'economic transformation' and real 'economic change' can take on entirely different meanings according to such forms as human industry may assume. It may be little wonder that sustainable economic development has been interpreted in so many conflicting ways; after all, we may be speaking about sustaining and developing entirely different forms of human industry!

By initiating this generalized explanatory differentiation of human industry it is hoped that we can begin to overcome one of the most significant limitations of the common sense approach to sustainable economic development. In the next chapter I shall continue this differentiation and ask if the good sought by participating in human industry would differ depending upon which economic conjugate form is understood and affirmed to be real.

## CHAPTER THREE

### THE GOOD

Why do we exchange things and services with one another? How do we ensure a good supply of these things and services? Why do we invest money? Why do we constantly fiddle with national inflation rates, taxation rules, or why do we buy up our own currency, float bonds and debentures? Why do we rally around causes such as saving peregrine falcons or dusky seaside sparrows? How do we improve the chances of their survival? Why do some think such causes are vital to our survival while others think its all just silly sentimentality? Why do some wish that governments would stop playing around with the economy and let the markets look after themselves? Why do others think we have an obligation to do exactly the opposite?

These kinds of questions are concerned with what we find good about human industry. They allude to the idea that the good sought by participating in human industry differs depending upon which economic conjugate form is understood and affirmed to be real. What is the good of a market? An economy? An ecology? Is the good different in each case, and if so, in what way?

Human industry is purposeful, and its purpose aims at attainment of what may be called the good. However, because human industry can assume three different conjugate forms, it is reasonable to wonder if there are three corresponding versions of what constitutes the good of our industry. The aim of

this chapter is to continue differentiating the forms of human industry by examining the characteristics and implications of these different versions of the good. The first part outlines Bernard Lonergan's theory of the good to be used in the discussion. The second, third, and fourth parts explore the significance of the good in terms of the market, economic, and ecological conjugate forms respectively. The fifth part examines how each form is dominated by a different and specific aspect of the good.

### 3.1. Structure of the Good

My goal in this section is to explore how the good is structured in relation to our understanding of the meaning of human industry and in relation to the forms of economic activity I have differentiated.

#### 3.1.1 *Isomorphism of the Good*

I employ the notion of the good as articulated by Bernard Lonergan. Lonergan differentiates the good into distinct aspects. He holds that it is not only what is sought or desired that is good, but the capacity to desire is also good, the desiring itself is good, and having the concrete situation in which the good is obtained, is also good.<sup>1</sup>

Lonergan also maintains that there is an isomorphism between the structure of knowing, and the good.<sup>2</sup> What he has named 'particular good' or 'elementary good' parallels experience. The 'good of order' parallels understanding; knowing the good requires understanding it. The good as 'value' parallels reflection and judgment; when one reflects on different orders, different

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<sup>1</sup>Lonergan, Topics In Education, 29.

<sup>2</sup>Lonergan, Insight, 576. ; Lonergan, Understanding and being, 226. ; Collected Works of Bernard Lonergan, eds. Frederick E. Crowe and Robert M. Doran, vol. 4, Collection (New York Herder & Herder, 1967; reprint, Toronto: University of Toronto Press, 1988) , 108 (page references are to reprint edition).

possible arrangements and systems, one comes to the notion of value, and such reflection is at the level of judgment.<sup>3</sup> Thus the universe of proportionate good is a compound of objects of desire (particular goods), intelligible orders (goods of order), and values because the good that one does intelligently and rationally is a manifold in the field of experience, is ordered by intelligence, and is rationally chosen.<sup>4</sup>

Furthermore, there is an isomorphism between the structure of the good and the structure of being. Being is whatever is grasped intelligently and affirmed reasonably, and because it is intelligible, it is good.<sup>5</sup> The division of the good also runs parallel to the divisions of finite being as composed of potency, form and act. Being and good are convertible<sup>6</sup> because the good is always concrete.<sup>7</sup> Potential good is identical with potential intelligibility at the cognitional level and with the objects of desire at the ontological level.<sup>8</sup> The formal good is identical with formal intelligibility at the cognitional level and with goods of order at the ontological level.<sup>9</sup> Actual good is identical with actual intelligibilities in terms of cognition and with actual existence ontologically.<sup>10</sup>

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<sup>3</sup>Lonergan, Topics In Education, 41.

<sup>4</sup>Lonergan, Insight, 628.

<sup>5</sup>Lonergan, Insight, 679. The good is identical with the intelligibility that is intrinsic to being. *Ibid.*, 628, 668.

<sup>6</sup>*Ibid.*, 668.; Lonergan, Topics In Education, 27.

<sup>7</sup>Lonergan, Method, 27. The good is not an abstract notion, it is comprehensive and includes everything in the universe of being. Lonergan, Topics In Education, 28.

<sup>8</sup>Lonergan, Insight, 628.

<sup>9</sup>*Ibid.*, 628.

<sup>10</sup>*Ibid.*, 628. These elements are inextricable elements and not separate kinds of good. They are inextricable because they have their foundation in the invariant structure of human knowing, and are likewise isomorphic with the structure of being. To clarify by way of comparison and contrast, Lonergan's notion of the structure of the good coincides with Aristotle's and Aquinas' notion that good is not an ideal; true and false are in the mind, but good and evil are in things. Lonergan, Topics In Education, 29. See also Aristotle Metaphysics 6. 4. 1027b25-27.; and Aquinas De veritate q. 1, a. 2. Lonergan rejects the hedonistic notion of the good as experiential pleasure. "The identification of being and the good bypasses human feelings and sentiments to take its stand exclusively upon intelligible order and rational value." Lonergan, Insight, 629. See also Aristotle The Nichomachean Ethics 10.

And so, Lonergan concludes that metaphysics and ethics are interpenetrating.<sup>11</sup> To summarize, there is an isomorphism between knowing, being, and the good. See Table 3-1.

**Table 3-1 Isomorphism of knowing, being, and good**

|                    |                        |                      |                |
|--------------------|------------------------|----------------------|----------------|
| <b>Cognitive</b>   | <b>Experiencing</b>    | <b>Understanding</b> | <b>Judging</b> |
| <b>Ontological</b> | <b>Potency</b>         | <b>Form</b>          | <b>Act</b>     |
| <b>Ethical</b>     | <b>Particular Good</b> | <b>Good of Order</b> | <b>Value</b>   |

Let us examine these three aspects of human good in detail.

### **3.1.2 *The Particular Good***

The particular good is familiar and simple. As Lonergan notes, it is what people usually think about when they talk about the good. It regards the satisfaction of a particular appetite.<sup>12</sup> However, Lonergan has stressed that the particular good is not mere impulse. While initially and spontaneously we identify the good with the object of desire, this desire is not mere animal impulse or egoistic scheming.

Man is an artist. His practicality is part of his dramatic pursuit of dignified living. His aim is not for raw and isolated satisfactions. If he never dreams of disregarding the little matter of food and drink, still what he wants is a sustained succession of varied and artistically transformed acquisitions and attainments. If he never forgets his personal interest, still his person is no Leibnizian monad; for he was born of his parents' love; he grew and developed in the gravitational field of their affection; he asserted his own independence only to fall in love and provide himself with his own hostages to fortune. As the members of the hive or herd belong together and function together, so too men are social animals, and the primordial basis of their community is not the discovery of an idea, but a spontaneous intersubjectivity.<sup>13</sup>

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<sup>11</sup>Lonergan, *Insight*, 626.

<sup>12</sup>Lonergan, *Topics In Education*, 33.

<sup>13</sup>Lonergan, *Insight*, 237.

Therefore the good as desired is desired in a fully human and social context.

The particular good is the object of desire and when attained, it is experienced as pleasant, enjoyable, as satisfying at the experiential level.<sup>14</sup>

Objects of desire are instances of the good precisely because they yield such satisfactions.<sup>15</sup>

### 3.1.3 *The Good of Order*

Among the many desires to be satisfied, there is the special case of our desire to know. Through the detached, disinterested, and unrestricted desire to know, and the knowledge that this desire generates, there arises a unique kind of elementary good which leads to the good of order.<sup>16</sup> The good of order is essentially a formal intelligibility that is to be discovered by raising questions; it is understood only through accumulated insights; it is formulated in conceptions.<sup>17</sup> Intellectually, then, the good as the good of order is the object of an insight<sup>18</sup> Even though the good of order lies beyond the field of sensitive appetite and is quite distinct from any object of desire in the simpler sense, it remains an object of devotion or appetite.<sup>19</sup> One can still desire one good of order over another.

There is an important social or community aspect to the good of order which is not present in the particular good. The object of desire is an object for

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<sup>14</sup>Ibid. , 619. The good, as the object of desire, corresponds to the experience of data. See Lonergan, Collection, 108. The good is the object of desire or appetite at an elementary experiential level. See Lonergan, Understanding and being, 225. Lonergan relates this meaning of the good to the scholastic phrase *Bonum est id quod omnia appetunt* (the good is that which everything desires). See Lonergan, Understanding and being, 377. See also Aristotle Ethics 1. 1. 1094 a3. ; and Aquinas Summa Theologiae 1. q. 5, a. 1, and passim.

<sup>15</sup> So are the rest of the manifold of existents and events in the universe of being Lonergan, Insight, 628.

<sup>16</sup>Ibid. , 619.

<sup>17</sup>Lonergan, Understanding and Being, 380.

<sup>18</sup>Lonergan, Collection, 108.

<sup>19</sup>Lonergan, Understanding and Being, 378.

the satisfaction of my desire, whereas the good of order is desired not just for oneself. For example, one can desire the good of order of a capitalist economy for other nations. The object of desire, therefore, is a good for yourself but the good of order speaks in terms of the proper way of doing things.<sup>20</sup>

Because such intelligible orders of human invention systematically assure satisfaction of desires, they are good.<sup>21</sup> The good of order is not, however, the object of any single desire, for it stands in correspondence with the schemes of recurrence that supervene upon the materials of desires and the efforts to meet them, to secure an otherwise unattainable abundance of satisfactions.<sup>22</sup> To put it quite simply, whenever there is a regular recurrence of particular goods, there is a good of order behind it.<sup>23</sup>

A good of order is the construction of human intelligence; it involves possible systems for ordering the satisfaction of human desires. Understanding the systematic correlations that explain operations is the cognitional aspect which corresponds with the goods of order that make systematic the satisfaction of the goods of desire.<sup>24</sup>

As a simple example, Lonergan notes that breakfast is a particular good, whereas regularly having breakfast requires a good of order. Likewise, the family is not a particular good, but a flow of particular goods for father, mother, and children.<sup>25</sup> Other examples of goods of order that he cites are manners (mores),

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<sup>20</sup>Ibid , 379

<sup>21</sup>Lonergan, Insight, 628

<sup>22</sup>Ibid , 620

<sup>23</sup>Lonergan is careful to stress that the good of order is not a matter of mechanistic planning, because mechanistic planning has to account for every detail or else everything runs amok. The good of order is a matter of sets of alternative schemes of recurrence. It works according to a set of probabilities. Lonergan, Topics in Education, 34-35

<sup>24</sup>Lonergan, Insight, 621

<sup>25</sup>Lonergan, Topics in Education, 34.



society, the state and the law, the church or sect, an education system, technology, an economy, a polity.<sup>26</sup>

### 3.1.4 *Value*

When we move from the formal level, or the level of understanding, to the level of reflection and judgment, of deliberation and choice, we move to the level of value.<sup>27</sup> The particular good leads into the good of order and evaluating it and criticizing it. In that evaluation and criticism there emerges the notion of value, We ask Is it worthwhile?<sup>28</sup> The good on the level of value is the good as object of the practical judgment 'this is worthwhile' and the subsequent choice.<sup>29</sup> Goods of order, therefore, raise the question of value; we ask if this order we have in place is good.<sup>30</sup> Just as the objects of desire fall under schemes of recurrence to give rise to the good of order grasped by intelligence, so also the good of order with its intelligible orders and concrete contents is a possible object of rational choice, a possible value.<sup>31</sup> It is important to stress that the particular good, the particular objects of appetite, can be values too insofar as they lie within a good of order: In this case it is not sheer appetite but intelligently ordered appetite that can be valued. Value, then, is the good as possible object of rational choice.<sup>32</sup>

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<sup>26</sup>Ibid , Topics in Education, 34 , Lonergan, Understanding and Being, 226, 378 , Lonergan, Insight, 619 , Lonergan, Method, 48 In Method, Lonergan becomes more nuanced The above are the institutions of cooperation in which the goods of order are the concrete manner of cooperation that is worked out, the institutions are not the goods of order *per se*, but the mode in which goods of order are brought about Ibid , 49

<sup>27</sup>Lonergan, Insight, 620, 628 Lonergan later differentiated judgments of fact and judgments of value He admitted to conflating the two in Insight A fourth level accounts for the notion of choice We shall take up this fourth level of intentionality in Chapter Five under a discussion of the role of conversion in economic transformation

<sup>28</sup>Lonergan, Topics in Education, 40

<sup>29</sup>Lonergan, Understanding and Being, 380

<sup>30</sup>Lonergan, Topics in Education, 36

<sup>31</sup>Lonergan, Insight, 624

<sup>32</sup>Lonergan, Understanding and Being, 226

### 3.1.5 *Summary*

In this section I have sought to explain the theory of the good to be used throughout the remainder of this chapter. In this approach, there is an isomorphism between knowing, being, and the good. Experience, potency and the particular good are in correspondence. Understanding, form, and the good of order are in correspondence. And judgment, act and value are in correspondence. Thus there are three aspects to the good. The particular good is the object of appetite at an elementary level; when attained it is experienced. Whenever there is a regular recurrence of particular goods, there is an intelligible good of order behind it. Whenever a particular good or the good of order behind it becomes an object of rational choice, there is the good as value.

With this outline, we can now move to an examination of the three aspects of the good that are peculiar to the market, economic, and ecological conjugate forms of human industry. Our approach in the next three sections is to describe and explain the kinds of particular goods and values that result when human industry is understood to be actually functioning as exchange schemes, or circulation schemes, or ecological schemes. In general, the approach is to understand the kinds of desires that can be satisfied by a given kind of actually operating good of order, and to describe the kinds of values that must obtain if such goods of order and such intelligently ordered particular goods are made the objects of our rational choices. I do not make any claim about what constitutes a truly rational choice, a truly intelligent order, or a truly desirable particular good. We can only touch upon such judgments and their origins in our last chapter. In effect, the rest of this chapter is simply a logically derived taxonomy of the good of human industry. It is based on the isomorphism between the structure of knowing, being and the proportionate good. It is also based on the assumption

that empirically identified goods of order must satisfy some particular kinds of goods and, if actually operating and not merely accidentally, must be the result of purposeful choosing for the most part.

### 3.2. Taxonomy of the Market Good

This section will examine the market conjugate form of human industry in terms of the three aspects of the good outlined above. The goal is to demonstrate that market exchange has as its function the regular acquisition of things and services to be utilized in service of human welfare.

#### 3.2.1 *Stock*

The world of concrete exchange provides us with a stock of things and services. We exchange our money, labour and precious time for basics. We buy groceries because we are hungry. We buy clothing to keep warm. We acquire modest houses, rent flats, and board in rooms to seek shelter from the cold, the heat, the night. We are willing to exchange our hard earned money for the services of lawyers, dentists, doctors, mail carriers, plumbers, electricians, car mechanics and even university professors. Some go to great lengths to acquire things. There are many who would acquire diamond rings, fast cars, fine art, vintage wines, good scotch (is there another kind?), truffles, caviar, yachts, and more.

Behind this desire to acquire things and services, behind the acquisitiveness associated with concrete instances of exchange, we find some need met, some want fulfilled, some appetite sated, some desire satisfied. Regardless of normative claims that would distinguish between necessity and luxury, at the very least we can say that both luxurious and necessary commodities have one thing in common; both are wanted at the level of appetite and when they are obtained we experience some sense of satisfaction.

And so we may say that aggregates of exchange or market events are transacted in service of the satisfaction of wants, taken in this broad sense.<sup>33</sup>

But how are these wants satisfied? It has become a commonplace temptation and tendency to argue that the huge and intricate processes of production and consumption are what give rise to the satisfaction of wants. However, as economist Kenneth Boulding realized, nothing could be further from the truth. Only the things and services we have at our disposal, our stock as it were, can provide the satisfaction of desires at the level of the market.

I shall argue that it is the capital stock from which we derive satisfactions, not from the additions to it (production) or the subtractions from it (consumption): that consumption, far from being a desideratum, is a deplorable property of the capital stock which necessitates the equally deplorable activities of production: and that the objective of economic policy should not be to maximize consumption or production, but rather to minimize it, i.e. , to enable us to maintain our stock with as little consumption or production as possible.<sup>34</sup>

Herman Daly wryly puts it this way; "we cannot ride to town on the maintenance costs, the depletion and replacement flow of an automobile, but only in the complete automobile, a member of the current stock of automobiles."<sup>35</sup>

We may say then, that the particular good of markets is strictly stock acquisition. Once some desired particular stock is acquired, we are satisfied, for it fulfills some want, or some appetite. Stock acquisition is an object of desire, an instances of the good, because it yields a whole range satisfactions.

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<sup>33</sup>Another way to say this is that exchanges in the market satisfy individual preferences. See Allen Buchanan, Ethics, Efficiency, and the Market (New Jersey: Rowman & Allanheld, 1985) , 26.

<sup>34</sup>Kenneth Boulding, "Income or Welfare?," Review of Economic Studies 17 (1949) : 79.

<sup>35</sup>Herman E. Daly, "Consumption and Welfare: Two Views of Value Added," Review of Social Economy 4 (Winter 1995): 461-462.

### 3.2.2 *Exchange*

Adam Smith found that stock, as the particular good of the market, is acquired through exchange schemes, indeed, he held that the sole purpose of exchange is to provide stock on a regular and consistent basis

To maintain and augment the stock which may be reserved for immediate consumption is the sole end and purpose both of the fixed and circulating capitals. It is this stock which feeds, clothes, and lodges the people. Their riches or poverty depend upon the abundant or sparing supplies which those two capitals can afford to the stock reserved for immediate consumption.<sup>36</sup>

Let me recast this insight in terms of our discussion of the relationship between the economic form I have called 'market,' and the good of order associated with that form. As we have seen in Chapter Two, the schemes of recurrence associated with the regular occurrence of market events have been named 'exchange schemes.' In addition, I have shown above that the regular acquisition of any particular good implies the existence of some good of order behind it. By this account then, in the case of markets, the regular recurrence of the particular good I have named 'stock acquisition' must require some good of order behind it. Since I have already named the market schemes of recurrence 'exchange schemes,' and since there is an isomorphism between our formulating such market schemes of recurrence of events and some market good of order, it would seem appropriate to employ the term 'exchange' when talking about the good of order associated with markets.<sup>37</sup>

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<sup>36</sup>Smith, *Wealth of Nations*, 379. I think Smith uses the term 'consumption' to mean 'use', whereas Boulding regards consumption as the unfortunate side-effect of 'using up' something in the process of satisfying wants through the use of stock. For Smith it is the value-added (particularly value added by labour) which is consumed in the process of using a particular stock. This interpretation is supported by the fact that Smith believes one exchanges in the market 'all that surplus part of the produce of his own labour, which is over and above his own consumption.' Ibid., 120. In fact, Smith goes so far as to argue that there is no market when there is no use for the surplus of one's labour. Ibid., 122).

<sup>37</sup>As we shall see in later sections, this meaning for the term 'exchange' is in keeping with Aristotle's, Xenophon's and Smith's intended meaning of the word.

We may say then, that the particular market good of 'stock acquisition' finds its regular occurrence in the good of order of 'exchange.'

### 3.2.3 *Welfare*

When stock acquisition (as an intelligibly ordered particular good), and exchange (as a good of order) become the objects of rational choice, when they are rationally declared to be worthwhile, and when they are rationally chosen, we may say that we value welfare.

We have long valued for their utility the goods and services and the patterns of exchange through which they are obtained. St. Thomas, St. Albert, and Duns Scotus all declared that the value of goods, or what we have called stock, lies in their utility.<sup>38</sup> As John Noonan mentions, for these men, "to value a good because it fills a need or to value it because it is useful are identical acts."<sup>39</sup> Modern economists too, have employed the term 'utility' in association with the satisfaction that one gets from utilizing commodities.<sup>40</sup> For example, the 'rationality postulate' of neoclassical economics is that rational economic participants strive to maximize their utility.<sup>41</sup>

However, many economists have expended no small amount of energy arguing that the notion of utility is not a value. In fact they argue stridently that utility is rational precisely because it is a value-free concept! Of course this is not

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<sup>38</sup>Aquinas Summa Theologiae II-II 77 2 ad 3 "Dicendum quod sicut Augustinus dicit in XI De Civit Dei §, pretium rerum venalium non consideratur secundum gradum naturae, cum quandoque pluri vendatur unus equus quam unus servus, sed consideratur secundum quod res in usum hominis veniunt " [translation As Augustine says (The City of God (6 16)), the price of saleable things does not depend on their degree of nature, since from time to time a horse fetches a higher price than a slave, but it depends on their usefulness to man] See also Aquinas In X lib ethic 5 9 , Albert In libros ethicorum 5.2 10 34 , Scotus' definition of value is virtually identical with that of Aquinas See Scotus, In IV libros sententiarum (Opus Oxoniense) 4 15 2.

<sup>39</sup>John T. Noonan, Jr The Scholastic Analysis of Usury (Cambridge, Mass. : Harvard University Press, 1957) , 83

<sup>40</sup>Lipsey, Economics, 126

<sup>41</sup>Krishnan, A Survey of Ecological Economics, 327 As Lipsey assumes, "For all practical purposes, human wants may be regarded as limitless " Lipsey, Economics, 5

what the scholastics meant. And I too am suggesting exactly the opposite of the neo-classical economist's position; that is to say, utility is in fact the appropriate value associated with stock acquisition and exchange. There is absolutely nothing value-free about it. Furthermore, I am suggesting that the notions of utility and welfare are interchangeable words that mean exactly the same thing; welfare (or utility) is the value associated with the particular good of stock acquisition and the good of order of exchange. To understand why I make this claim, and so as not to confuse the reader into thinking that I believe utility to be a value-free concept, it is necessary to briefly trace how the notion welfare emerged from debates about the meaning of utility in human industry.

To begin with, we must examine the hypothesis of diminishing marginal utility, for it plays a critical role in the idea that utility is a value-free postulate.<sup>42</sup> This hypothesis is quite straightforward. Economists have distinguished between total utility and marginal utility. Total utility involves making a choice between two or more kinds of stock. Lipsey gives as an example the choice between water and movies. In the case of total utility, one is comparing the value one places on the total consumption of water with the value one places on all one's attendance at the movies; one can either drink or be entertained but not both. Marginal utility, on the other hand, compares the value placed on a small addition of one stock over another. Again Lipsey gives as an example the choice to increase water consumption by 35 gallons a month (the amount needed for one extra bath per month) or attending one more movie per month. It can be seen that marginal utility speaks of the borderline situations in which one has to decide between the utility of having one more increment of some commodity over another.<sup>43</sup> Now

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<sup>42</sup>As the well known economist Paul Samuelson says, neoclassical welfare economists would include among their numbers Pigou, Bentham, Sidgwick, Edgeworth, and Marshal. See John F. O'Connel, Welfare Economic Theory (Boston: Auburn House, 1982) , 4.

<sup>43</sup>Lipsey, Economics, 126-127.

the hypothesis of diminishing marginal utility is simply that, *ceteris paribus*, the utility one derives from successive units of a particular commodity will diminish as total consumption of that commodity increases. For example, one may be willing to pay dearly for a meal to stave off hunger, but a twelfth slice of Boston cream pie at the end of a seven course meal may not be worth all that much. Of course the great hope behind this idea was that we could measure one kind of utility as compared to another simply by comparing what opportunities one would be willing to forfeit at the margin in order to take advantage of other opportunities.

Besides the premise of the hypothesis of diminishing marginal utility (that utilities are somehow commensurable), there also arose the idea that utilities were somehow comparable.

The second premise was that all individuals had similar utility functions so that the pleasure derived from consumption would be the same for everyone. The pleasure of a concert for one person, for example, would be the same as that obtained by anyone else; more importantly, the value of money (the marginal utility of income) would be the same among all people.<sup>44</sup>

These two premises of commensurable and comparative utility led to the viewpoint that social welfare could be understood as the sum of all the society's members' utility functions.<sup>45</sup>

The significance of this movement was the belief that the notion of utility could be cleansed of all subjective notions of value; it could be rendered value-free. This weighing and measuring would replace a normative function. As long as utility could be measured, there would be no need to make value judgments about welfare. 'Objective' calculations would determine the most utile route to take and thereby automatically provide us with the best 'choice' for our welfare.

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<sup>44</sup>O'Connell, *Welfare Economic Theory*, 5

<sup>45</sup>Assuming the law of diminishing utility and competitive prices, welfare would be maximized only when income is equally distributed. *Ibid* , 5



Economists could now declare maximization of utility as the value-free rational course of action to pursue. Or so we thought.

This rationalization of utility initiated a further series of attempts to purify economics as a positive science. During World War II the debate over free trade and protectionism became a forum for effecting this extrication. For example, there was a renewed discussion among economists over the repeal of the English Corn Laws of the previous century. Before and after the wars with Napoleon, foreign wheat was taxed highly by the Corn Laws. The new Corn Law of 1815 forbade foreign corn to be imported into England until the domestic price had risen such as to alleviate the distress of the poor who's profits were being undercut by cheap imported corn. For many reasons, not least among them the tragic Irish potato famine of 1845, the English Parliament was pressured to cease the protectionism of the Corn Laws and Prime Minister Sir Robert Peel requested Parliament to repeal them. During World War Two, the famous economist R. F. Harrod, in the neo-classical tradition, argued that the repeal caused suffering to some, but the overall sum of gains obtained by repeal outweighed the losses incurred by not repealing. His argument was based on the standard neo-classical belief that utilities could be summed. Nicholas Kaldor also argued that the Laws ought to have been repealed, but only because it could be shown that those who gained financially by doing so could compensate the losers and still be better off financially than if the Laws had not been repealed. Although their conclusions were similar, there was a fundamental difference in their approaches. Whereas Harrod's argument was based on the implicit claim that utility analysis could permit normative conclusions about welfare, Kaldor's argument was based on the claim that normative conclusions were unnecessary to begin with; determining efficiency alone would reveal the correct road to take.

Efforts to reduce dependence of policy formulation on the tenets of 'utilitarianism' brought about clearer differentiation of the issues of 'efficiency' and 'equity.' Two separate questions were posed: (1) What are the economic implications of a competitive market system with respect to consumption, production, and the relationship between them (efficiency)? (2) Is the resultant distribution of well-being in society consistent with the ethical beliefs of society (equity)?<sup>46</sup>

Thus, even though welfare economics was attempting to become a value-free science, the mere fact that it still tried to make normative claims at all - no matter how well cleansed they were of value-judgments - made it an anathema to the purists of positive economics.

Vilfredo Pareto also attempted to push this separation further by suggesting that economic efficiency could be determined without the need to appeal to any normative claims about the commensurability of utilities.<sup>47</sup> His Pareto-efficiency criterion sought to escape normative value judgments associated with interpersonal comparisons of marginal utility and thus provide some 'value-free' basis for welfare economics. He argued that the "state of a given system is Pareto Optimal if and only if there is no feasible alternative state of that system in which at least one person is better off and no one is worse off."<sup>48</sup> Pareto's notion of optimality was matched with a notion of superiority such that a state  $S^1$  is superior to another state,  $S^2$ , if and only if there is at least one person who is better off in  $S^1$  than in  $S^2$  and no one is worse off in  $S^1$  than in  $S^2$ .<sup>49</sup> As Herman Daly points out, this project to exorcise value-judgments failed.

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<sup>46</sup>Ibid. , 5.

<sup>47</sup>As Allen Buchanan points out, the wide acceptance of Pareto's principles can be attributed to the fact that they purported to provide a way of assessing social states, one which does not require commensurability of interpersonal utility comparisons. In other words, we supposedly don't have to weigh one person's wants against another. See Buchanan, Ethics, Efficiency, and the Market, 7.

<sup>48</sup>Ibid. , 4. See also Daly and Cobb, For the Common Good, 52 for a definition of Pareto optimality. For a discussion of Pareto optimality in relation to equilibrium see Robin Boadway and Neil Buce, Welfare Economics (Oxford: Basil Blackwell, 1984) , 11-16.

<sup>49</sup>Buchanan, Ethics, Efficiency, and the Market, 4.

If I feel worse off *because* someone else has become better off, then by the Pareto criterion we would never observe an improvement in social welfare. For the criterion to be operational we must rule out malevolence or spite. Either economists are making the positive statement that people are in fact neither spiteful nor malevolent, or else they are making the normative judgment that people should not be malevolent and spiteful, and satisfactions based on such motives simply will not be counted. As a positive statement the proposition is clearly false. Only as a normative statement does it command widespread assent. But we also believe it ironic that anyone could claim that the theoretical structure built on this foundation is a value-free "positive" science.<sup>50</sup>

Despite the fact that welfare economics has moved rather far away from its utilitarian roots, and because of the failure to erect a value-free version of utility in its stead, welfare economists like Per-Olov Johansson still maintain that the notion of utility and welfare are identical and ultimately concerned with value.<sup>51</sup> Indeed, Herman E. Daly also argues that welfare is still the word most appropriate to discussions of the value implicit in the service of want satisfaction rendered by the utility of stocks of capital.<sup>52</sup> In light of this tendency by some major economists to understand welfare as the value associated with utility, we shall not be amiss to use the term 'welfare' in reference to the value of the market conjugate form of human industry. While the word 'utility' would be equally correct, I feel it is inappropriate because it still smacks of the rationalist counter-position (that human industry could somehow be value-free) outlined above.

### 3.2.4 *Summary*

This section has examined the market conjugate form of human industry in terms of the three aspects of the good outlined above. The goal has been to

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<sup>50</sup>Daly and Cobb, For the Common Good, 93-94. There is a normative assumption underlying the claim that positive economics is 'objective', while normative economics is 'subjective'. The normative claim is that a reduction in value-judgments is desirable (and possible) because they detract from the objectivity, or positive statements about the economy as it really is!

<sup>51</sup>Per-Olov Johansson, An Introduction to Modern Welfare Economics (Cambridge: Cambridge University Press, 1991), 3.

<sup>52</sup>Daly, "Consumption and Welfare," 461.

demonstrate that market exchange has as its function the regular acquisition of things and services to be utilized in service of human welfare.

**Table 3-2 Structure of the market good**

| Particular Good | Good of Order | Value   |
|-----------------|---------------|---------|
| Stock           | Exchange      | Welfare |

Stock acquisition is the particular good of the market, exchange is the good of order which makes the achievement of this particular good regular, and the value associated with making these two aspects of the good objects of rational choice is welfare (see Table 3-2).

### **3.3. Taxonomy of the Economic Good**

This section will examine the economic conjugate form of human industry in terms of the three aspects of the good. The goal is to demonstrate that the circulation of capital has as its function the regular accumulation of profits to be obtained in service of generating wealth.

#### **3.3.1 Profit**

'Stock' and 'capital' are not the same. With Adam Smith, stocks of things anyone possessed could be differentiated into a) those intended for use or consumption, and b) the stock of things which could provide revenue. That part of the stock of things which provides revenue he named 'capital.' He further differentiated revenue-generating capital into two kinds; capital which earns revenue only upon its exchange to someone else, and capital which earns revenue insofar as it is a means for making the things which are exchanged for revenue. He named the capital which makes revenue by its exchange 'circulating

capital' and he named capital which is instrumental in making things for exchange 'fixed capital.' For example, circulating capital would include any type of traded merchandise like food, furniture and clothing, while fixed capital would include the machinery, equipment and so forth used in manufacturing such food, furniture and clothing. It would appear from Boulding's explanation above, that he uses the term 'capital stock' to mean what Smith meant by the term 'stock.' Standard textbooks on economics now refer to fixed and circulating capital simply as 'capital.'<sup>53</sup> To make matters even more confusing, the word 'capital' is often used only to mean what Smith called 'fixed capital.'<sup>54</sup> Commonly people use it to mean money, since capital circulates in most economies as money. Despite some confusion, differentiating between 'capital' and 'stock' is not merely a question of semantics, for a radically different function is implied for each. I have already used the term 'stock' to refer to those goods and services used in the service of the satisfaction of wants. Within this definition, one could include Smith's fixed capital, for it is capital tied up in goods and services just like any other stock; it is out of circulation so to speak. Therefore I shall use the term 'capital' to mean only circulating capital.

Adam Smith noted that the function of fixed capital, circulating capital, or both, is to generate some kind of return or profit.<sup>55</sup> Definitions of the meaning of profit abound. During the sixteenth century, according to John Noonan, Laurentius de Ridolfis' definition was widely accepted: "profit is properly said to be the superabundance or increment which one has from a voluntary exchange

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<sup>53</sup>Smith, Wealth of Nations, 373-375.

<sup>54</sup>Standard textbooks on economics would declare that capital is a man-made aid that furthers production. See Lipsey, Economics, 166. In this way, it is understood as the same as Smith's notion of fixed capital which also serves to enhance production.

<sup>55</sup>Smith, Wealth of Nations, 375.

beyond those goods which were one's own at the beginning of it "<sup>56</sup> Nowadays, we commonly understand economic profits to be the difference between revenues and opportunity cost,<sup>57</sup> or in other words, the difference between the value of sales and the cost of producing what is being sold.<sup>58</sup>

If Adam Smith was correct, it would seem that profit or return on capital, is the particular good obtained when capital is either circulated or fixed in place for the purposes of keeping such capital circulating. As long as the returned capital is held in circulation, or tied up in fixed capital for the purposes of producing further profits, it is unavailable as a form of stock. Therefore, circulating capital and fixed capital left unconverted into stock (i.e. left liquid) cannot serve the satisfaction of wants in the same way as converted stock. Consequently, profits, or returned capital *per se* represent an increase in capacity to acquire stock, and most importantly, the desire to increase this capacity is not the same as the desire to acquire stocks in service of wants. As Aristotle said of money, being a form of capital, it acts "as a guarantee of exchange in the future: that if it is not needed now, it will take place if the need arises."<sup>59</sup> Only upon its conversion into the goods and services of stocks can capital be brought into

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<sup>56</sup>Laurentius de Ridolfis, *De usuris* in *Tractatus universi juris* (Venice, 1584-1586), 7 c.1 1(n 4) quoted from Noonan, *Usury*, 32

<sup>57</sup>Lipsey, *Economics*, 172

<sup>58</sup>*Ibid* , 164. Strictly speaking, this is called 'economic profits' "If the amounts of money due to [costs of production] are subtracted from the total receipts of a firm, the amount left is what the businessman calls profits and what the economist calls the return on capital " See *Ibid* , 364 ) This is the return in excess of the full opportunity cost Conceptually, return on capital is comprised of three different elements Firstly, there is 'pure return on capital' which is the profit that capital could earn in a risk-free investment Secondly, there is the profit which includes pure return plus a risk premium added to compensate the entrepreneur for the risks taken in an enterprise. This is what Adam Smith called 'gross profit' Thirdly, there is 'net profit' or the profit made after the pure return on capital and the risk premium are deducted This is Adam Smith's notion of 'clear profit' See *Ibid* , 364 and Smith, *Wealth of Nations*, 199

<sup>59</sup>Aristotle, *The Ethics of Aristotle: The Nicomachean Ethics*, with an Introduction by Jonathan Barnes trans J.A.K. Thomson (New York Penguin, 1955, reprint New York Penguin, 1980) 185 (page references are to reprint edition)

service of want-satisfaction. Until such conversion, circulating capital can only provide profits, or more capital. Therefore, the desire to obtain return on capital and the desire to acquire stocks, represent entirely different forms of the particular good. One may counter that eventually profit is turned into stock, therefore the particular good desired of profit is ultimately identical to the particular good desired of stocks. However, we know of many people who pursue profits for profits' sake. There are many who could accumulate almost infinite amounts of stocks if they so desired, but they don't. Having the capacity to do so seems enough. There are many who continue the drive to reap greater and greater profits and who never convert even a fraction of their capital into stock, not in their lifetime, or even in lifetimes' of their heirs and assigns.

The increased capacity to acquire stock, afforded by return on capital, or profit, raises the normative issue of whether or not the particular good of an economy is profit maximization. Is the desired experience just increased capacity to acquire stock, or is the desire to maximize such capacity? Most would argue that maximization of profits has been a long-standing normative premise associated with economics. Even those who disagree with the value of this premise, nevertheless react to it.<sup>60</sup> Standard economics texts often assume that the whole point of participating in an economy is to maximize profit. "It is assumed that the firm makes decisions in such a way that its profits will be as large as possible. In technical language, it is assumed that the firm *maximizes its profits*."<sup>61</sup> Others argue that maximization is not the direct goal. For example, distinguished economist Herbert Simon says "we must expect the firm's goals to

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<sup>60</sup>For example, Marx acknowledged that the function of capital was to maximize profits. "We have seen how money is changed into capital, how through capital surplus value is made, and from surplus value more capital." Lewis S. Feuer, ed., Marx & Engels: Basic Writings on Politics & Philosophy (New York: Anchor, 1959), 160.

<sup>61</sup>Lipsey, Economics, 164.

be not maximizing profits but attaining a certain level or rate of profit, holding a certain share of the market or a certain level of sales."<sup>62</sup> This is known as the satisficing hypothesis. William Baumol, an equally eminent economist, disagrees with Simon. He believes that firms should strive to maximize sales revenue, not profits because the sales-maximizing quantity of capital to be returned is necessarily greater than the profit-maximizing quantity.<sup>63</sup> This concept is known as the sales-maximizing hypothesis. Even with these alternative approaches, the maximization of profits is not questioned, it is just a matter of devising the best method for doing so. E.F. Schumacher put it bluntly

Something is uneconomic when it fails to earn an adequate profit in terms of money. The method of economics does not, and cannot, produce any other meaning. Numerous attempts have been made to obscure this fact, and they have caused a very great deal of confusion; but the fact remains.<sup>64</sup>

Whether we speak of appropriate rates of return on capital, as in the satisficing hypothesis, or the best means of generating that return, as in the sales maximization hypothesis, the desire still is to generate profits

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<sup>62</sup>Herbert Simon, [no citation provided by Lipsey], quoted in *Ibid.*, 310. Notice how this approach is similar to the macro-economic notion of a steady-state economy. Perhaps the underlying premise is the same; we must be satisfied with capped profits in a crowded market just as we must be satisfied with limited economic growth in the face of scarce resources.

<sup>63</sup>A sales-maximizing decision would imply that there will be a larger output but a lower sales price. Profits are maximized when marginal revenue equals marginal cost. This is the point where the revenue generated by producing one more unit equals the cost to produce that unit. The production of that unit will not contribute to increasing profit, and the production of any further units would actually lead to a loss because the cost to do so would begin to eclipse the revenue thus generated. However, revenues are not maximized in the same way. Revenues are maximized where marginal revenues are zero. In other words, to sell more you have to keep dropping the price until you have to give the next unit away for free. If you want to sell as much as possible, you drop the price. If you want to make as much profit as possible, you have to keep the price as high as the market will bear. For a downward sloping revenue curve, the sales-maximizing quantity of units sold is necessarily greater than the profit-maximizing quantity. The sales maximizing theory therefore predicts larger output but lower prices. In short it holds that a firm will actually make its best return on capital not by striving for maximum profits, but by striving for maximum sales. See Lipsey, *Economics*, 311.

<sup>64</sup>E. F. Schumacher, *Small is Beautiful: A Study of Economics as If People Mattered* (Great Britain: Blond & Briggs, 1973, reprint London: Abacus, 1979), 40 (page references are to reprint edition).



To summarize, then, the particular good of human industry considered from the economic form is to obtain return on capital.<sup>65</sup> The return on capital is not the acquisition of stock in service of want satisfaction, but the acquisition of capacity to generate and acquire stock.

### 3.3.2 *Circulation*

Kenneth Boulding, as shown above, realized that the processes of production and consumption are not in the direct service of satisfaction of wants. So one may wonder, What is the role of production and consumption?

Adam Smith argued that the processes of surplus production and consequent consumption are the vehicles through which a return on capital is obtained.

It is the great multiplication of the productions of all the different arts, in consequence of the division of labour, which occasions, in a well-governed society, that universal opulence which extends itself to the lowest ranks of the people. Every workman has a great quantity of his own work to dispose of beyond what he himself has occasion for [i.e. he can dispose not of his stock but his capital]; and every other workman being exactly in the same situation, he is enabled to exchange a great quantity of his own goods for a great quantity, or, what comes to the same thing, for the price of a great quantity of theirs. He supplies them abundantly with what they have occasion for, and they accommodate him as amply with what he has occasion for, and a general plenty diffuses itself through all the different ranks of society.<sup>66</sup>

Our capacity to provide and acquire stock is a direct result of what we have done with yesterday's surplus production. This surplus production requires that we have capital (i.e. circulating capital) to exchange with others in surplus of the stock we require in service of want-satisfaction. Furthermore, surplus production

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<sup>65</sup>Capital accumulation is the proper end of wealth-getting. See Krishnan, A Survey of Ecological Economics, xxvi.

<sup>66</sup>Smith, Wealth of Nations, 115.

requires fixed capital to create the surplus of circulating capital in the first place. Through the surplus production afforded us by the circulating and fixed capital, we obtain a capacity to acquire stock in service of the satisfaction of wants. The processes of production and consumption thus function to provide a return on capital.

We may notice that there is an implied circularity to the processes of production and consumption. Adam Smith was quite clear on the matter.

His capital [i.e. the merchant's circulating capital] is continually going from him in one shape, and returning to him in another, and it is only by means of such circulation, or successive exchanges, that it can yield him any profit.<sup>67</sup>

Now one might be tempted to argue that it is exchange which Smith sees as the means for profits, however, his concern is not with concrete exchanges *per se*, but with their 'successiveness.' He brings home this point by identifying the notion of circulation, and not exchange, as the impetus for capital mobility.

The great wheel of circulation is altogether different from the goods which are circulated by means of it. The revenue of the society [and thus the return on capital] consists altogether in those goods, and not in the wheel which circulates them. In computing either the gross or net revenue of any society, we must always, from their whole annual circulation of money and goods, deduct the whole value of the money, of which not a single farthing can ever make any part of either.<sup>68</sup>

Smith grasped that the 'wheel' is something beyond the exchanges of the marketplace.<sup>69</sup> The 'wheel' is what accounts for the successiveness of the transactions. Profit is obtained by the actual flow or circulation and not the exchanges *per se*. While it is market exchange which provides the means to acquire stock, it is circulation which provides the means to expand one's

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<sup>67</sup>Ibid. , 374.

<sup>68</sup>Ibid. , 385.

<sup>69</sup>He seems to imply a good of order that is different than the market. This is also apparent in his famous notion of the 'invisible hand'.

capacity to acquire stock. Moreover, once the capital is removed from direct circulation, or 'cashed in' upon the acquisition of stocks, the capital thus removed from circulation no longer works, so to speak, to create further profit. From the outset of classical economics analysis, then, it seems that the desire for return on capital has been linked to the notion of productivity and to the circulation of capital.<sup>70</sup>

These concepts have carried over into the modern economic concept of input-output analysis. We now accept that it is because of the relationship between the 'factors of production' or inputs, and the products, or output, that there may occur a return on capital or profit.

The firm is in business to make profits. It does this by producing and selling some commodity. . . The materials and *factor services* that are used in the process of production are often called *factors of production* (or *inputs*) and the products that emerge are often called *outputs*. One way of looking at the process is to regard the factors as being combined to produce the output.<sup>71</sup>

Now this input-output (I-O) conception of production perhaps has its most famous formulation in the work of Wassily Leontief.

In 1973, Wassily Leontief, then of Harvard, received the Nobel Prize for his interindustry analysis, usually called the input-output system. The interindustry analysis shows in one great table what each industry (really each industrial category) sells to and buys from every other industry. Once compiled, it becomes possible then to calculate the effect of an increase in the output of automobiles (or weapons) on the sale of all other industries.<sup>72</sup>

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<sup>70</sup>This concern with capacity to make profits is reflected in the notion of economic productivity. As Galbraith notes, production has become valued for many historical reasons that have to do with the fact that subsistence welfare caused us to be concerned with the means of obtaining capital, and not just the items that could be utilized. John Kenneth Galbraith, The Affluent Society, 2d ed., (Great Britain: Hamish Hamilton, 1968, reprint Great Britain: Penguin, 1970), 126 (page references are to reprint edition).

<sup>71</sup>Lipsey, Economics, 165. The factors typically include fixed capital, land, and human labour.

<sup>72</sup>John Kenneth Galbraith, The Age of Uncertainty (Boston, Houghton Mifflin, 1977), 22. As Galbraith notes, this idea was preceded by the work of French physiocrat Dr. François Quesnay (physician to Louis XV). The physiocrats held that all wealth originated in agriculture. Quesnay's Tableau Économique was an effort to show in quantitative terms how the principle parts of the economic system were related. Incidentally, Quesnay was an acquaintance of Adam Smith. See,

And as both Lipsey and economist Ozay Mehmet indicate, Leontief's model is really a model of general equilibrium.<sup>73</sup> Computable General Equilibrium Models (CGE) are another even more sophisticated example of this movement in economics to create equilibrium models relating profit and productivity to the circulation of capital "Large-scale I-O matrixes, 100x100 or even larger varieties, are now technically feasible, as well as linear and nonlinear optimization models known as CGEs"<sup>74</sup> We found in Chapter Two that the notion of general equilibrium in any economic system is a form of the notion of defensive schemes of recurrence of events, or what I have named, in terms of the economic form of human industry, 'circulation.' Therefore, from Smith, down to CGEs we see an implicit acknowledgment that circulation schemes make possible the mobility of capital and return on capital.

Bernard Lonergan also had an ongoing concern with capital circulation His study of the issue is to be found in his *An Essay in Circulation Analysis* <sup>75</sup> Lonergan identifies production, payments, and finance as the three major factors

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Ibid , 18 , and Robert L. Heilbroner, The Worldly Philosophers: The Lives, Times, and Ideas of the Great Economic Thinkers, 6th ed , (New York: Simon & Schuster, 1986) , 48-51

<sup>73</sup>Lipsey, Economics, 404 Mehmet, Westernizing the Third World, 103

<sup>74</sup>Ibid , 105 Some have gone further, and made social accounting matrices (SAM) a guide for social policy evaluation See J. de Melo, "SAM-based Models: An Introduction," Journal of Policy Modeling 10 (March 1988) , F. G. Pyatt, "A SAM Approach to Modeling," Journal of Policy Modeling 10 (March 1988) (this entire issue of the Journal of Policy Modeling was devoted to social accounting matrices) There have been attempts to combine CGEs with the macroeconomic models of neoclassical structuralist economics See L. Taylor, Structuralist Macroeconomics: Applicable Models for the Third World (New York: Basic Books, 1983)

<sup>75</sup>Lonergan's own life-long interest in economics led to his development of a dynamic macroeconomic model based on the notion of schemes of recurrence. This unpublished essay has undergone several revisions dated 1944, 1980, and 1982 Unless otherwise stated, the version referred to throughout this dissertation shall be the following, Bernard Lonergan, "Lonergan's Economics Manuscript 1944 Later (?) entitled 'An Essay in Circulation Analysis' " TMs [photocopy] , Lonergan Center, Regis College, Toronto, Canada At the time of composing this dissertation, publication of the essay, as a volume in the series Collected Works of Bernard Lonergan is pending In the meantime, for a good introduction to Lonergan's circulation analysis, consult Byrne, "Economic Transformation," 327-348

influencing equilibrium in the circulation of capital.<sup>76</sup> Furthermore, he makes a functional distinction between two levels of productivity which he names 'basic' and 'surplus.' Basic production includes activities that produce goods and services intended for use in maintaining a standard of living, or way of life.<sup>77</sup> Surplus production is concerned with producing goods and services used to produce the goods and services used in maintaining a standard of living. We can readily see that the notion of basic production produces the kinds of goods which have their parallel in Smith's notion of 'stock' and Boulding's notion of 'stock.' Surplus production refers to production of the kinds of goods and services that have their parallel in Smith's notion of 'fixed capital.' Finally, payments and finances may be considered broadly in terms of the circulation of payments.<sup>78</sup> Again, the parallel here is with Smith's notion of 'circulating capital.' Lonergan's circulation analysis is concerned with the dynamic and cyclical relationships between these functions insofar as they contribute to the formulation of a coherent general notion of macroeconomic equilibrium.<sup>79</sup>

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<sup>76</sup>These factors are understood as sources of fluctuations more precisely "The term 'productive process', is to be used broadly. It denotes not merely 'making things'. In brief, it is the totality of activities bridging the gap between the potentialities of nature, whether physical, chemical, vegetable, animal, or human nature, and, on the other hand, the actuality of a standard of living." Lonergan, "Circulation Analysis," 2

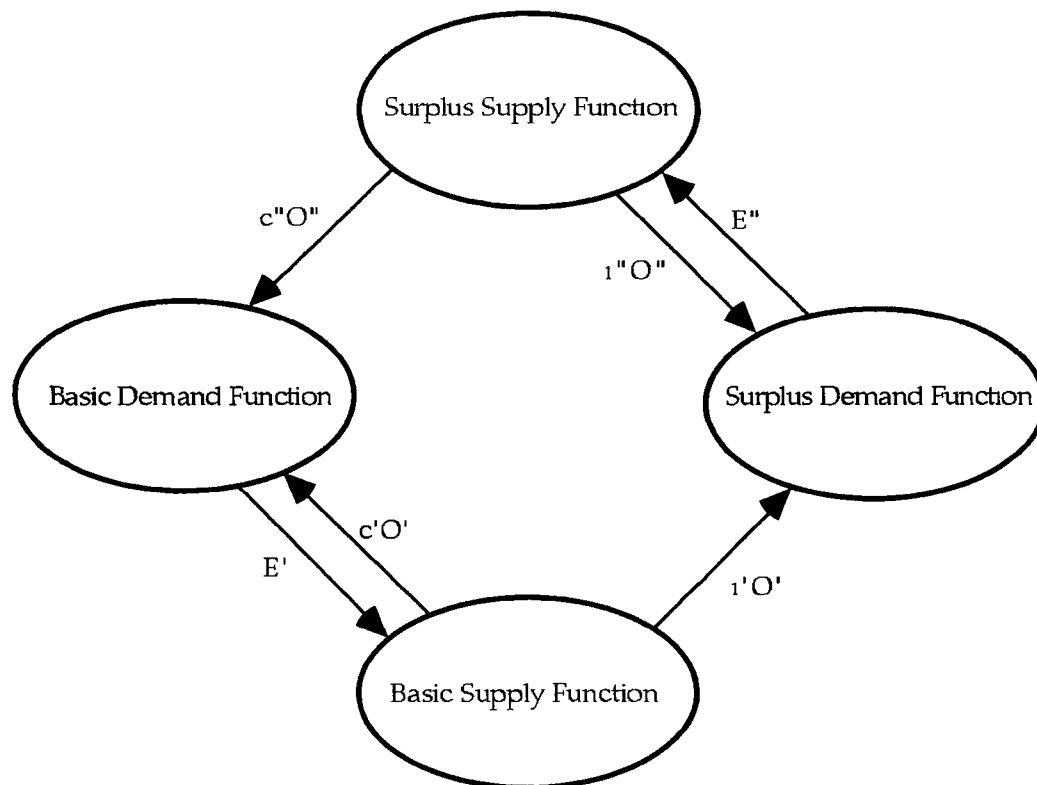
<sup>77</sup>Lonergan is rather obtuse in his earlier use of the phrase 'standard of living.' He simply says "Let us assume as known what is meant by the term, standard of living." Ibid., 12. Patrick Byrne has equated standard of living with the notion of a way of life. See Byrne, "Economic Transformation," 329.

<sup>78</sup>As Dr. Byrne notes, the concern here is not with payments, or even aggregates of payments, but with aggregates of rates of payments. Ibid., 329. To put it another way, Lonergan is concerned not with payments *per se*, or even the velocity of payments, but with the acceleration and deceleration of the velocity of payments. Rates of change of change is the key issue.

<sup>79</sup>Lonergan, "Circulation Analysis," 3, 9, 19ff. See also Byrne, "Economic Transformation," 330. While the following analysis is given by Lonergan in all its detail, I call upon Patrick Byrne's simplified version in the above article for the purposes of demonstrating Lonergan's overarching concern with the dynamics of circulation. Our intention here is not to enter into a debate about the interpretation of Lonergan's model, but to simply demonstrate that he was concerned with the circulation of capital. Contrary to many other models, Lonergan recognizes two distinct and interacting circuits, not just one circuit from which money is withdrawn and re-injected.

Let us briefly examine the dynamics of his model in order to demonstrate his interest in the circulation of capital.

Figure 3-1 Macroequilibrium of Monetary Functions<sup>80</sup>



In this diagram, each circle represents a kind of monetary function in which "money [is] held in reserve for a defined purpose." <sup>81</sup> Basic demand is money held in reserve as a result of the aggregate propensity to acquire basic goods or stock. That is to say, basic supply is money held in reserve for the production of such stock. Surplus demand is money held in reserve as a result of

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furthermore, Lonergan acknowledged that the surplus side introduces accelerators into the basic side via innovations.

<sup>80</sup>Reproduced (with typographical corrections) from Byrne, "Economic Transformation," 331

<sup>81</sup>Lonergan, "Circulation Analysis," 36

the aggregate propensity to acquire surplus goods in service of producing basic supplies. That is to say, surplus supply is money held in reserve for the production of fixed capital

There is a flow of payments involved in the expenditures for basic (E') and surplus (E'') products. Of course, what is an expenditure for the consumer, is at the same time a receipt for the producer, hence there are outlays required in the production of basic (O') and surplus (O'') goods.<sup>82</sup> Some portion of the outlays made by basic producers goes toward purchasing other basic, or consumer (c) goods and services, while some goes toward purchasing more surplus goods and services, or inventories (i). Likewise, some portion of surplus outlays goes toward buying other consumer goods and services or inventories.<sup>83</sup>

Thus the following equations represent basic and surplus production.

$$\text{Basic Production: } E' = c'O' + c''O''$$

$$\text{Surplus Production: } E'' = i'O' + i''O''$$

Therefore, there is a crossover from surplus production to basic, and basic to surplus. Accordingly, macroeconomic equilibrium can exist only when the aggregate of rates of payments coming from the surplus circuit into the basic equals the aggregate of rates of payments going to the surplus circuit from the basic. That is to say;

$$c''O'' = i'O'$$

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<sup>82</sup>Byrne, "Economic Transformation," 332

<sup>83</sup>Ibid , 332. Lonergan considers all the flows of payments in this diagram as final operative payments (i.e. when basic supply makes outlays for labour, this goes directly to basic demand as  $c'O'$ . Everything in the production process of basic supply eventually goes to basic demand as labour when considered from the perspective of final operative payments.

Any imbalance in the aggregate of rates of payments crossing over between the two would result in disequilibrium, and therefore, the eventual bleeding of productive resources from either the basic cluster of monetary functions for the sake of surplus productivity, or visa versa.<sup>84</sup>

With this extremely brief overview, we can see that it is the circulation of capital itself that is the main focus for Lonergan.<sup>85</sup> This is our only point. He too acknowledged that circulation schemes of recurrence make possible the mobility of capital and hence the return on capital. Indeed, to the extent that all these models of economic systems from Smith to Lonergan demonstrate an attempt to show equilibrium, we may say that they are concerned with the notion of circulation.

Our attention to economic events, our formulation of explanatory and experiential conjugates in terms of these events, and our intelligent discovery of schemes of recurrence of these events involving the circulation of money, allow us to evaluate and develop our capacity to generate return on capital. Our concern with economic events is, therefore, a concern with how the circulation of capital generates profits.<sup>86</sup> And insofar as the circulation of capital can give rise to regular and consistent satisfaction of the desire for return on capital or profit

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<sup>84</sup>We have excluded Lonergan's discussion of the redistributive monetary function in order to simplify. However, see Lonergan, "Circulation Analysis," 34-52, for the detailed discussion of how the redistributive function contributes to the distribution of money so that accelerations in circulation (caused by surplus innovations for example) do not drain basic functions in service of surplus development or visa versa. For a discussion on why the breakdown of an economy is the breakdown of schemes of recurrence and goods of order, see Lonergan, Understanding and Being, 378.

<sup>85</sup>More to the point, the central concern is with diverse types of acts of payments and the multitude of conditioning linkages among acts of meaning in circulation schemes that involve capital.

<sup>86</sup>Indeed, the central concept in macroeconomic theory is the relationship between the flow of income or profit, and the activity of the system of circulation which generates it. Lipsey, Economics, 58.



as a particular good, we may say that circulation is the corresponding good of order. If exchange is the good of order through which stock is regularly obtained in the service of satisfaction of wants, circulation is the good of order through which the capacity to acquire stock is transferred. While stocks change hands through concrete instances of market exchange, capital is made mobile through circulation <sup>87</sup>

### 3.3.3 *Wealth*

When profit as a particular good and circulation as a good of order become the objects of rational choice, when they are rationally declared to be worthwhile, and when they are rationally chosen, we may say that we value 'wealth'

Aristotle made a sharp distinction between the value placed on the acquisition of stock and the value placed on profit. He argues that the art of acquisition (κτητική) takes two forms. One kind of acquisition is associated with estate management, or οἰκονομία <sup>88</sup>

One kind of acquisition therefore in the order of nature is a part of the household art [οἰκονομική], in accordance with which either there must be forthcoming or else that art must procure to be forthcoming a supply of those

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<sup>87</sup>And for all intense and purposes, since money is regarded as profit, or return on capital, it is safe to say that circulation of capital is by and large the circulation of money. Lipsey, Economics, 575-376. I am convinced that money can have more than one meaning. Firstly, in its economic form, as capital, it functions as a circulation catalyst. Secondly, it functions at the market level as a standard of value and medium of exchange. I suspect it also has a different meaning at the ecological level. It would be interesting to explore these avenues in another place and time.

<sup>88</sup>Daly and Cobb, For the Common Good, 138, as well as many others translate the word οἰκονομία as 'management of the household', but I think this is somewhat misleading. It implies to the modern mind one's home and the things typically involved in managing it. It connotes the secondary school notion of 'home economics'. Xenophon is quite clear that much more is meant by the term. Estate management is a branch of knowledge (ἐπιστήμη) by which one increases the total of one's worthwhile property (as opposed to the kind of property one accumulates which is ultimately bad for the management of the estate). See Xenophon, Memorabilia, Oeconomicus, Symposium, Apology, trans. E. C. Marchant, The Loeb Classical Library, ed. G. P. Goold, no. LCL 168 (Cambridge, Mass.: Harvard University Press, 1923; reprint, Cambridge, Mass.: Harvard University Press, 1992), 363, and 409 (page references are to reprint edition).

goods, capable of accumulation, which are necessary for life and useful for the community of city or household.<sup>89</sup>

This form of acquisition is similar if not identical to the kind I have assigned to the market conjugate form of human industry; it deals with the straightforward acquisition of stocks in service of the direct satisfaction of wants.

The other kind of acquisition is associated with accumulating wealth (χρηματιστικήν).<sup>90</sup>

But there is another kind of acquisition that is specially called wealth-getting [χρηματιστικήν], and that is so called with justice; and to this kind it is due that there is thought to be no limit to riches and property.<sup>91</sup>

The philosopher demonstrates the source of fundamental differences between these two kinds of acquisition.

. . . with every article of property there is a double way of using it. . . one is peculiar to the thing and the other is not peculiar to it. Take for example a shoe - there is its wear as a shoe and there is its use as an article for exchange [μεταβλατική]; for both are ways of using a shoe. . . . And the same also holds good about the other articles of property; for all of them have a use in exchange related to them, which began in the first instance from the natural order of things, because men had more than enough of some things and less than enough of others.<sup>92</sup>

This 'art of exchange,' associated with the acquisition of goods and services to be used for their primary uses in estate management, is not at all the same process as obtaining wealth through 'business.'

This consideration also shows that the art of trade [κοπηλική] is not by nature a part of the art of wealth-getting [χρηματιστικής]; for the practice of barter was necessary only so far as to satisfy men's own needs. . . . Exchange

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<sup>89</sup>See Aristotle, *Politics*, trans. H. Rackman, The Loeb Classical Library, ed. G.P. Goold, no. LCL 264 (Cambridge, Mass. : Harvard University Press, 1932; reprint, Cambridge, Mass. : Harvard University Press, 1990) , 37-39. (page references are to reprint edition).

<sup>90</sup>Daly has defined chrematistics as "manipulation of property and wealth so as to maximize short-term monetary exchange value to the owner." See Daly and Cobb, *For the Common Good*, 138.

<sup>91</sup>See Aristotle, *Politics*, 39.

<sup>92</sup>*Ibid.* , 39-41.

[μεταβλαπτική] along these lines. . . [is not] any branch of the art of wealth-getting . . . yet out of it the art of business in due course arose.<sup>93</sup>

Business, or as Benjamin Jowett translates the Greek, 'retail trade,' is radically different than 'exchange' because it has to do with capital and profit, and not with stock and its acquisition.<sup>94</sup> Aristotle traces the historical emergence of the difference. When barter became too cumbersome, there followed a need to agree upon a common medium of exchange.<sup>95</sup>

So when currency had been now invented as an outcome of the necessary interchange of goods, there came into existence the other form of wealth-getting, trade, which at first no doubt went on in a simple form, but later became more highly organized as experience discovered the sources and methods of exchange that would cause most profit. Hence arises the idea that the art of wealth-getting deals specially with money, and that its function is to be able to discern from what source a large supply can be procured, as this art is supposed to be creative of wealth and riches; indeed wealth is often assumed to consist of a quantity of money, because money is the thing with which business and trade are employed.<sup>96</sup>

And so Aristotle makes the link between money (or capital), profit, and trade (or the circulation of capital), and he declares these to be radically different than the acquisition of useful property and its exchange. Furthermore, getting wealth has to do with the circulation of money through the trade associated with business, and not with the exchange of useful things *per se*. In summary, Aristotle realized that the circulation of money, or capital, implied the operation of a very different good of order and category of particular goods than the good of order of

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<sup>93</sup>Ibid , 41-43

<sup>94</sup>Aristotle, Politics, trans Benjamin Jowett, with an Introduction by Max Lerner, The Modern Library Series (New York: Random House, 1943) , 71

<sup>95</sup>Barter gives rise to the problem economists commonly call 'double coincidence.' Barter requires that two trading parties both simultaneously have the items each need at the same place and same time. If I have a pig and you have a cow and we want to exchange them, then a double coincidence is required. Money makes the need for this double coincidence irrelevant. Either of us can use the cash from one exchange to get what we want at a later time, or in a different place if need be.

<sup>96</sup>Aristotle, Politics, 43

exchange and those particular goods associated with the acquisition of stocks in service of want-satisfaction. Valuing one was not the same as valuing the other.<sup>97</sup>

Aristotle's notion of the 'art of exchange' is parallel to our notion of the good of order called 'exchange.' The 'primary use' of commodities is equal to our notion of the utility of 'stock.' When these two become possible objects of rational choice, as they were for Aristotle, we arrive at the meaning of his first version of wealth. His first version of wealth attached to the art of exchanging stock is what I have called 'welfare' On the other hand, his notion of 'retail trade' parallels our notion of the good of order called 'circulation'. His notion of 'profit' is the same as our notion of 'return on capital.' And when circulation and profit become possible objects of rational choice, as indeed they could for Aristotle, they become the value of wealth-getting, or chrematistics. And so his second notion of wealth-getting attached to the art of retail is parallel to what I shall call the value of 'wealth.'

Aquinas was also clear that the value of capital is not the same as the value of stock. "All other things of themselves have some utility; not so, however, money. But it is the measure of utility of other things, as it is clear according to the Philosopher in the *Ethics* V:8 ."<sup>98</sup>

The economist Herman Daly also makes this sharp distinction between the value behind *oikonomia* and the value behind chrematistics. He argues that *oikonomia* differs from chrematistics in three ways First it takes the long run rather than the short run focus. Second, it considers costs and benefits to a whole

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<sup>97</sup>In fact, Aristotle himself decided that the particular good of profit, and the good of order that brings it about (i.e. the 'art of retail') are to be rejected as truly good. *Ibid* , 51

<sup>98</sup> My translation of " quia omnes aliae res ex seipsis habent aliquam utilitatem, pecunia autem non, sed est mensura utilitatis aliarum rerum, ut patet per Philosophum in V *Ethic* , cap VIII (sic). " Aquinas. In IV lib sent 3.37 l.6

community, not just the transacting parties. Third, it concentrates on concrete utility, not abstract exchange value.

Use value is concrete: it has a physical dimension and a need that can be objectively satisfied. Together these features limit both the desirability and the possibility of accumulating use values beyond limit. By contrast, exchange value is totally abstract: it has no physical dimension or any naturally satiable need to limit its accumulation. Unlimited accumulation is the goal of the chrematist and is evidence for Aristotle of the unnaturalness of the activity. True wealth is limited by the satisfaction of the concrete need for which it was designed. For oikonomia, there is such thing as enough. For chrematistics, more is always better.<sup>99</sup>

Classical and neo-classical economists seem to be almost exclusively concerned with the value of wealth. It is no accident that Adam Smith entitled his most famous treatise on economics accordingly. His overarching concern with how capital circulates, the profits that circulation generates, and the relationship between these things and the value of opulence or wealth is evident enough throughout the books of Wealth of Nations. It is practically taken for granted in

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<sup>99</sup>Daly and Cobb, For the Common Good, 139. It must be mentioned in passing that our analysis differs somewhat from that of Daly and Cobb. While we are in agreement that the values behind oikonomia and chrematistics are fundamentally different, it seems that Daly and Cobb perform their own conflation by implying that oikonomia is essentially an ecological form. "While chrematists, when they recognize that much market activity does not contribute to economic welfare and that some non-market activity does, propose to subtract the former from the latter, oikonomia, by contrast, suggests that no quantifiable features of the community can measure its actual health" (Ibid., 141). This I think is true, but they go on to say that oikonomics gives rise to a model that demonstrates that the economy has a proper scale relative to the ecosystem. They maintain that, whereas chrematistics recognizes externalities and tries to internalize them, oikonomia studies the community as a whole and locates market activity within it. Ibid., 143. For Daly and Cobb, oikonomia is concerned with person-in-community, and community is equated with the ecosystem. Ibid., 156. Certainly this is a far stretch from Aristotle's notion of estate management! Oikonomics, in its original meaning is concerned with utility and welfare, not the health of the community or some ecology. Health of community cannot be grasped through the schemes associated with market exchange any more than they can through schemes associated with circulation of capital. If Daly and Cobb are right about the mistake of chrematists, it appears that they fall into the same trap. I think their shift toward an ecological form is correct, but that the Hellenistic notion of estate management, as juxtaposed to chrematistics, does little to advance a fruitful differentiation. Whereas the modern chrematist conflates market (oikonomia) and circulation (chrematistikon), Daly conflates market (oikonomia) and ecology.

almost every textbook in economics that affluence, opulence, richness, or wealth are all valuable.

In keeping with these lines of analysis, I shall say that we value 'wealth' when profit as a particular good and capital circulation as a good of order become objects of rational choice.

### 3.3.4 *Summary*

This section has examined the economic conjugate form of human industry in terms of the three aspects of the good. See Table 3-3 for a summary of this section.

**Table 3-3 Structure of the economic good**

| Particular Good | Good of Order | Value  |
|-----------------|---------------|--------|
| Profit          | Circulation   | Wealth |

I have argued that the circulation of capital has as its function the regular accumulation of profits to be obtained in service of generating wealth.

## 3.4. Taxonomy of the Ecological Good

This section will examine the ecological conjugate form of human industry in terms of the three aspects of the good. The goal is to demonstrate that an ecology has as its function the provision of stability against perturbations in service of maintaining health.

### 3.4.1 *Stability*

What is the particular good of human industry understood in its ecological form? What does the functioning of an ecology regularly and consistently give rise to?

It is not an exaggeration to say that the overwhelming majority of writing on sustainable economic development has at least an implicit concern with the threat of ecological perturbation in one form or another. This can be seen in the thrusts of the conservation movement, the preservation movement, and in literature explicitly about ecologies.

Lipsey indicates that it is a typical economic assumption to regard inputs as being used up, sacrificed, or consumed in order to gain the output.<sup>100</sup>

It is not surprising that economics plays a major role in environmental debates. For example, many environmental problems appear to be, fundamentally, economic problems. Many of these problems are easily cast in economic terms: the distribution of scarce resources, allocation of risks and benefits, competing interests, production of desired goods, and so forth.<sup>101</sup>

This seems to be a significant premise of the conservation movement. The conservation approach to sustainable economic development treats natural resources as consumable commodities, 'as raw' material of production, as economic potentialities that are actualized only insofar as they contribute to the advancement of human standards of living.<sup>102</sup> From this perspective, what is desired of an ecology is that it provide, on a regular basis, a constant supply, an inventory of resources, of economic inputs, a secure source of factors of production. A vast amount of the literature on ecological economics is concerned with demonstrating that the supply of such raw materials can be disturbed, disrupted or destroyed if ecologies are irreparably perturbed. For example,

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<sup>100</sup>Lipsey, *Economics*, 165

<sup>101</sup>Joseph R. Des Jardins, *Environmental Ethics: An Introduction to Environmental Philosophy* (Belmont, California: Wadsworth, 1993), 44. See also Paul Portney, A. Myrick Freeman, et al. *Current Issues in U.S. Environmental Policy* (Baltimore: Johns Hopkins University Press, 1978).

<sup>102</sup>For example, Gifford Pinchot, previous head of the U.S. Forestry Service and one of the founders of the American environmentalist movement, strongly argued that "forestry is the art of producing from the forest whatever it can yield for the service of man." Gifford Pinchot, *The Training of a Forester* (Philadelphia: Lippincott, 1914), 13. This view seems to parallel Lonergan's (see note 76) perhaps this is a comment on the times.

Vandana Shiva warned that one of the biggest flaws in the modern notion of sustainable development is that the notion of production is separated from the notion of conservation of the supply of resources <sup>103</sup>

Juxtaposed to the rather utilitarian desires of the conservation movement, there is the preservationist component of the environmentalist movement. John Muir, founder of the Sierra Club defended the spiritual and aesthetic value of wilderness, and the inherent value of living things <sup>104</sup> As Joseph Des Jardins indicates, this put the preservationists on an entirely different footing than the conservationists. "The preservationists sought to protect the environment from any human activity that would disrupt or degrade it. Their goal was to preserve the wilderness in its natural, unspoiled state" <sup>105</sup> Thus preservationists speak of

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<sup>103</sup>Krishnan, A Survey of Ecological Economics, 87. Common and Perrings compare human made capital accumulation with natural capital. Mick Common and Charles Perrings, "Towards an Ecological Economics of Sustainability," Ecological Economics 6 (July 1992) 7-34.

<sup>104</sup>John Muir was a contemporary and adversary of Gifford Pinchot. Both were at the center of a debate which concerned a proposal to build a dam and reservoir in the Hetch Hetchy Valley adjacent to California's Yosemite National Park. Michael Cohen's The Pathless Way (Madison: University of Wisconsin Press, 1984) is a fine study of John Muir's ethics. Biocentric ethics seems to be a direct result of the early preservation movement. Among its notable proponents are E. O. Wilson and Frances Peter, eds., Biodiversity (Washington, D.C.: National Academy Press, 1988), Albert Schweitzer, Civilization and Ethics (London: A & C Black, 1946), Paul Taylor, Respect for Nature (Princeton, N.J.: Princeton University, 1986), Kenneth Goodpaster and K. Sayre, eds., Ethics and Problems of the 21st Century (Notre Dame, IN: University of Notre Dame Press, 1979). Discussion of rights and duties to nature is related. See Nash, The Rights of Nature, Eugene Hargrove, Foundations of Environmental Ethics (New York: Prentice-Hall, 1989), Stone, Should Trees Have Standing, Passmore, Man's Responsibility for Nature, Blackstone, Philosophy and Environmental Crisis. As well, the literature on animal rights stems from the preservationist heritage. See Singer, Animal Liberation, Regan, The Case for Animal Rights.

<sup>105</sup>Des Jardins, Environmental Ethics, 46. Aldo Leopold outlines the aesthetic aspects of the conservation movement, the role of wildlife in American culture, and the function of wilderness. See Leopold, Sand County Almanac, 165-201. The idea of 'wilderness' offers an interesting point of departure for a discussion of the underlying epistemological and other philosophical assumptions of the environmentalist movement in general, likewise, the idea of spoiled and unspoiled. As Leopold alludes to, there is a connection and paradox between the aesthetic desire for the "feeling of isolation in nature" and the idea of wilderness. *Ibid.*, 171-172. How can there be true unspoiled wilderness if it has been visited by humanity? How can it not be 'spoiled' to some degree by our mere presence? How do we know it is wilderness if we don't experience it, and once we experience it, how can we claim that it still remains pristine wilderness as we originally meant that term? Answers to these questions surely raise interesting questions about the knower and the known, as well as the idea that humanity is somehow 'extra natural'. Ironically perhaps,



the fragility of nature, the threat of the extinction of species, the destruction of plants and animal populations, the need for wilderness, and so on. They take action to protect endangered species, to set aside whole tracts of land as national parks and world heritage sites, to declare the need for places "where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."<sup>106</sup> In brief, the preservationist seeks to protect the myriad of things of our world from the perturbing actions of human activity, especially economic activity. We desire that things be left alone and undisturbed. We desire the pristine. We become esoteric.

Whereas the conservationist or preservationist is more apt to be concerned with the stability of the individual components of the environment - whether for their utility or intrinsic worth respectively - the ecologist is concerned with the framework of relationships which bind together such components. This holistic approach, as Aldo Leopold said, is concerned with conditions that preserve "the integrity, stability, and beauty of the biotic community."<sup>107</sup> In this sense structural stability is of utmost importance for the survival of the individual

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this idea contains the seeds of some notion of humanity's transcendence, or some latent claim to the supernatural! Perhaps those that claim human arrogance as the cause of destruction of nature in fact make the more arrogant claim that we somehow stand beyond nature. The epistemological suppositions of this line of thinking seem to be akin to those underpinning rights of future generations arguments. In comparison, Lonergan says that Toynbee's expression 'New Ground' meaning the civilization which arises after the disintegration of a previous corrupted one - expresses a civilization's redemption from previous sins. See Lonergan, Topics In Education, 66. Perhaps the desire for the pristine is a yearning for redemption in this same sense.

<sup>106</sup>U.S. Wilderness Act of 1964, quoted in Des Jardins, Environmental Ethics, 167.

<sup>107</sup>Leopold, Sand County Almanac, 224-225. The notion of community is just one of the common models of ecology considered in the environmentalist and environmental ethics literature. It is associated originally with the work of English zoologist Charles Elton. He understood an ecological system in economic terms: organisms in a food chain can be categorized as consumers, producers, and decomposers that recycle organic material and inorganic material. See Des Jardins, Environmental Ethics, 179. In a 1935 essay, English biologist Arthur Tansley proposed that the metaphorical notion of community be replaced with the language of physics, and the notions of ecosystems and energy. See Arthur G. Tansley, "The Use and Abuse of Vegetational Concepts and Terms," Ecology 16 (1935): 284-307. This energy model has largely replaced the community model and the nineteenth century organic model, especially in the ecological economics literature concerned with linking thermodynamics and production and consumption.

components of the ecology. The overarching ecology itself is to be preserved. It is not only the things and events of an ecology taken in isolation, but the balance of relationships between and among them which must also be protected against disruption.

C. S. Holling has looked at the perturbing effects of human industry in light of the desire for ecological stability, both in terms of the components of ecosystems and overall ecosystems themselves taken as objects of interest.<sup>108</sup> He defines stability *per se* as the propensity of components in an ecology to return to an equilibrium condition following a perturbation. Although there may be greatly different motivations for desiring a continuous supply of raw materials, protection of plants and animals, or the occurrence of ecological events, an overarching kind of desire seems prevalent. Regardless of the perspective on what exactly is being disturbed, the overarching desire is to provide some level of stability to the components in an ecology, however sophisticated or unsophisticated the understanding of that ecology may be. It is precisely this stability which is desired by conservationists, preservationists and ecologists who respectively desire that resources may be forthcoming, plants and animals may survive, or ecological events occur. Therefore, let us call 'stability' the particular good associated with the ecological conjugate form of human economic development.

### 3.4.2 *Ecology*

C.S. Holling distinguishes another level of stability. Whereas stability has to do with the components of an ecosystem, resilience is the propensity of the ecosystem itself to retain its organizational structure following perturbation. The

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<sup>108</sup>C. S. Holling, "The Resilience of Terrestrial Ecosystems: Local Surprise and Global Change," in Sustainable Development of the Biosphere, eds. W.C. Clark and R.E. Munn (Cambridge: Cambridge University Press, 1986).

main characteristic of resilience is the capacity of the ecosystem, by virtue of its interdependence with other systems, to adapt to stresses imposed upon it.<sup>109</sup>

Let us present this in terms of our ecological conjugate form. Holling-stability has to do with components. In terms of our ecological conjugate form, the so-called components have their analogy in the events of the flexible circles of ranges of schemes of recurrence. Holling's notion of resilience has to do with the capacity of the system itself to resist perturbation. In terms of our ecological conjugate form, the so-called system is the flexible ranges of the schemes. His notion of resilience is analogous to our position that ranges of circles of schemes of recurrence of events have the quality of flexibility. As he says, resilience is imbued on an ecosystem by virtue of its interdependence with other systems. In our terms, this is like saying that an ecology has flexibility by virtue of the interdependence of whole circles of ranges of schemes of recurrence of events. Therefore, it would seem that Holling-resiliency of ecosystems is parallel to our notion of flexible ranges of schemes of recurrence of events. Furthermore, Holling says that individual components of the ecosystem can only be stable if the ecosystem is resilient.<sup>110</sup> In our terms, this amounts to saying that the stability of individual events (i.e. conjugate acts) is conditional upon the ranges of the schemes of recurrence of ecological events possessing flexibility. Since the stability of components is the particular good desired from the Holling ecological perspective, and since resiliency of the ecosystem is the means by which stability is regularly achieved, we may say that resiliency is the good of order that makes

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<sup>109</sup>See Common and Perrings, "Towards an Ecological Economics," 7-34. Amory and Hunter Lovins, founders of the Rocky Mountain Institute, also speak of a technological system's resilience as ecological. They note that resilience does not imply rigidity but flexibility. Resilient systems have the characteristics of (1) dispersed structure, (2) multiple interconnections, (3) short linkages, (4) redundancy, (5) simplicity, (6) loose coupling of components in hierarchical arrangements. See Amory B. Lovins and Hunter Lovins, Brittle Power: Energy Strategy for National Security (Andover: Brick House, 1982), 191.

<sup>110</sup>Holling, "Terrestrial Ecosystems," 298-305.

stability of components consistent and regular. Recast in our terms, this is equivalent to saying that flexible ranges of schemes of recurrence comprise the good of order behind the regular occurrence of the particular good of events, understood of course in terms of the ecological form.

The branch of ecological economics known as 'industrial ecology' provides us with an example of the ecological form of the good of order.<sup>111</sup> Proponents of industrial ecology advocate that industrial systems ought to mimic biological ecosystems because everything produced by an ecosystem is used in some other part of the system.<sup>112</sup> Industrial ecologists hold that ecologies are good (i.e. a good of order to use our terms, although they would hardly do so) because they regularly and consistently conserve and recycle energy and materials in the production process.<sup>113</sup> Therefore, the "network of all industrial processes as they may interact with each other and live off each other, not only in the economic sense but also in the sense of direct use of each other's material and energy wastes" is an ecological industry.<sup>114</sup> The goal in the industrial ecological approach is to search for technologies that efficiently reduce throughput in the production process and thereby improve the resilience of such ecologies.<sup>115</sup> In our terms, advocates of industrial ecology suggest that industry should be intelligently arranged such that industrial events form flexible circles of ranges of schemes of recurrence of events.

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<sup>111</sup>In general, the discipline of ecological economics starts from the recognition that the biophysical realities underlying the operations of the economic system are also part of the ecology which forms the good of order that provides the particular goods associated with human economic activity. Krishnan, A Survey of Ecological Economics, xxxv

<sup>112</sup>T. E. Graedel, B. R. Allenby, and P. B. Linhart, "Implementing Industrial Ecology," IEEE Technology and Society Magazine 12 (Spring 1993) 18-26

<sup>113</sup>Faye Duchin, "Industrial Input-Output Analysis: Implications for Industrial Ecology," Proceedings of the National Academy of Sciences 89 (February 1992) 851

<sup>114</sup>Jesse H. Ausubel, "Industrial Ecology: Reflections on a Colloquium," Proceedings of the National Academy of Sciences 89 (February 1992) 879

<sup>115</sup>Krishnan, A Survey of Ecological Economics, 78

In general, from the ecological perspective the good of order appears to involve some general notion of resilience of the whole ecology against perturbation. Insofar as flexible circles of ranges of schemes of recurrence of events can give rise to regular and consistent satisfaction of the desired stability of its components as a particular good, we may say that an 'ecology' is the corresponding good of order in terms of the ecological form of human industry.

### 3.4.3 *Health*

When stability as a particular good, and ecology as a good of order become the objects of rational choice, when they are rationally declared to be worthwhile, and when they are rationally chosen, we may say that we value 'health.'

There is mounting support for the contention that well-being is not the same as welfare. Allen Buchanan demonstrates that preferences and the satisfaction of wants brought about by the acquisition of stocks are not identical to the promotion of well-being. We have already seen that Vilfredo Pareto introduced the notions of optimality and superiority in an attempt to avoid interpersonal utility comparisons. As Buchanan puts it, economists usually treat the above definitions of Pareto Optimality and Pareto Superiority as if 'better' or 'worse off' are equivalent with individual preferences. Accordingly, it is common to cast the Pareto criteria in the following terms;

1. A state,  $S^1$ , is Pareto Optimal if and only if there is no feasible alternative state,  $S^2$ , such that at least one person prefers  $S^2$  to  $S^1$  and such that no one prefers  $S^1$  to  $S^2$
2. A state,  $S^1$ , is Pareto Superior to a state,  $S^2$ , if and only if at least one person prefers  $S^1$  to  $S^2$  and no one prefers  $S^2$  to  $S^1$ .<sup>116</sup>

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<sup>116</sup>See Allen Buchanan, *Ethics, Efficiency, and the Market* (New Jersey: Rowman & Allanheld, 1985), 11.

Buchanan suggests that the equation of 'preferences' with the notion of 'better or worse off,' is either a claim that 'well-being' is identical to the satisfaction of preferences, or it is an empirical hypothesis that one's own preferences are the best indicator of what will contribute to one's own well-being.<sup>117</sup>

As a meaning claim, the assumption must be rejected. It makes perfectly good sense to ask whether satisfying a particular preference in fact makes one better off. One reason why this is so is that, at least in the less than perfect conditions of actual markets, individuals can be and are mistaken about what is most conducive to their own good, either because they are less than perfectly knowledgeable or less than perfectly rational, or both.

Perhaps the most potentially serious criticism of the empirical version of the assumption and hence of the efficiency argument for the market which relies upon it, is the Marxist objection that the market process itself tends to generate "distorted" preferences whose satisfaction does not promote the individual's well-being.<sup>118</sup>

Albert Hirschman has also pointed out that there is no empirical evidence to validate the claim that consumption (and willingness to pay as an indicator of its measure) is automatically identical to satisfaction and therefore happiness or well-being. Consumption can also lead to unhappiness.<sup>119</sup>

There is similar evidence to show that wealth and well-being are not the same either. Xenophon grasped this, for he maintained that those economic possessions that aid a man in living well are true wealth, while those that contribute to the destruction of man's nature are not true wealth.

That is to say, the same things are wealth and not wealth, according as one understands or does not understand how to use them. A flute, for example, is

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<sup>117</sup>See Buchanan, Ethics, Efficiency, and the Market, 11

<sup>118</sup>*Ibid.*, 27. Buchanan also develops an account of Marx's critique of the distorted desires of capitalism in light of the historical materialist theory of consciousness. See A.E. Buchanan, Marx and Justice: The Radical Critique of Liberalism (Totowa, N.J.: Rowman & Allenheld, 1982). For a further elucidation of the Marxist objection, see also G. A. Cohen, "Labor, Leisure, and a Distinctive Contradiction of Advanced Capitalism," in Markets and Morals, eds. G. Dworkin, G. Bermant, and P. G. Brown (Washington, D.C.: Hemisphere Publishing, 1977), 107-136.

<sup>119</sup>See Mark Sagoff, "Some Problems with Environmental Economics," Environmental Ethics 10 (Spring 1988): 63.

wealth to one who is competent to play it, but to an incompetent person it is no better than useless stones.<sup>120</sup>

Xenophon maintained that wealth contributes to one's well-being if it contributes to his nature, for in his nature man lives well. Aristotle too was well aware that wealth and well-being are not the same.

. what is the highest of all practical goods? Well, so far as the name goes there is pretty general agreement 'It is happiness', say both ordinary and cultured people; and they identify happiness with living well or doing well. But when it comes to saying in what happiness consists, opinions differ, and the account given by the generality of mankind is not at all like the wise. The former take it to be something obvious and familiar, like pleasure or money.

Some, however, have held the view that over and above these particular goods there is another which is good in itself and the cause of whatever goodness there is in all these others.<sup>121</sup>

We can see that Aristotle's notion of *eudemonia* is analogous to the notion of well-being, but capital wealth, or money, is not identical with happiness.

More recently, Richard Tawney (1880-1962) took the equation of consumption, wealth and happiness to be false. He argued that the frenetic rush to produce with no guiding principle other than the accumulation of wealth creates a situation wherein "part of the goods which are annually produced and which are called wealth, is strictly speaking, waste."<sup>122</sup> And such waste could not contribute to any one's well-being according to Aristotle and Xenophon. Nowadays many recognize that measurement of wealth generation is not measurement of well-being (where well-being is typically understood to be identical with human welfare).<sup>123</sup>

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<sup>120</sup>Xenophon, *Oeconomicus*, 367

<sup>121</sup>Aristotle, *The Ethics of Aristotle: The Nicomachean Ethics*, 66

<sup>122</sup>R. H. Tawney, *The Acquisitive Society* (New York 1920), 37-38

<sup>123</sup>There is a tendency to equate well-being with welfare. See Krishnan, *A Survey of Ecological Economics*, xxxiii. I assume that most authors make this conflation, for many use the notion of 'well-being' and 'welfare' interchangeably. For another example see Daly and Cobb, *For the Common Good*, Chapter Seven.

The national income accounts were devised in the 1930s to measure the level of production and its change from year to year. While economic policy over the last forty-five years has been directed toward increasing the growth of national income, there are a number of problems with this measure as an indicator of human welfare [well-being].<sup>124</sup>

We have the Lauderdale Paradox as another example showing that wealth and well-being are not identical. Lauderdale was a classical economist (1819) who argued that there was a difference between public wealth and private riches. Public wealth consists in anything that has use-value. On the other hand, private riches consists in those things with exchange-value. Lauderdale suggested that scarcity is necessary for an item to have exchange-value, and hence to be considered part of private richness. On the one hand, exchange value increases only if demand outstrips supply. On the other hand, use-value alone is enough for something to be classified as a public good; water is absolutely useful, but it is generally free. The paradox is that private riches can expand while public wealth shrinks because formerly abundant objects with great use-value but no exchange value can become scarce, thereby acquiring an exchange-value.<sup>125</sup> The problem with using Net National Product (NNP) as an indicator of well-being is this. Finding new resources increases welfare; they can become use-value public goods. But turning formerly free use-value goods into scarce resources diminishes welfare. Even though NNP rises when free public use-values are converted into items with exchange-value, welfare diminishes. But both scenarios raise NNP, and so NNP can be going up, all the while welfare, or as he calls it 'public wealth,' is diminishing. This problem has become known as

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<sup>124</sup>Krishnan, A Survey of Ecological Economics, 250. Others have spoken about these problems as well. See Tinbergen and Huetting, "Wrong Signals For Sustainable Economic Success," 52-62, Robert Goodland and Herman E. Daly, "Ten Reasons Why Northern Income Growth Is Not the Solution to Southern Poverty," in Population, Technology, and Lifestyle: The Transition to Sustainability, eds. Robert Goodland, Herman E. Daly, and Salah El Sarafy (Washington, D.C. Island Press, 1992), 128-145.

<sup>125</sup>See Daly and Cobb, For the Common Good, 147.



'Lauderdale's Paradox.' His point is that measurement of wealth is no indicator of human well-being (or welfare as it is typically understood by economists).

And so we may say that well-being has been distinguished both from welfare and wealth for quite some time. Furthermore, the move to an understanding of human industry as an ecological conjugate form has been matched with a concomitant tendency to value the environment and ecologies in terms of the notion of health

It is quite common for authors to speak about the apparent environmental crisis and its possible resolution in terms of sickness and healing. For instance, Albert Fritsch, S.J. speaks of 'earth healing' as "meaningful repair of environmental damage . . ." <sup>126</sup> Theologian Sallie McFague states, "it is increasingly evident that the metaphors of sickness, degeneration, and dysfunction are significant when discussing the state of our planet." <sup>127</sup> The deep ecology movement also focuses on the notions of wellness, sickness, and healing. As Joseph Des Jardins notes, the deep ecology perspective holds that "a 'cure' for the present crisis can come, then, only with a radical change in our philosophical outlook." <sup>128</sup> Gaia and other quasi-religious movements would go beyond this position to claim that such language is not just metaphorical; indeed concern over the wellness of the earth is regarded as being every bit as sensible as the concern for the wellness of any other living being. <sup>129</sup>

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<sup>126</sup> Albert J. Fritsch, S.J. "Appropriate Technology and Healing the Earth," in Embracing the Earth: Catholic Approaches to Ecology, ed. Albert J. LaChance and John E. Carroll (Maryknoll, N.Y.: Orbis, 1997), 96

<sup>127</sup> McFague, The Body of God, 188

<sup>128</sup> Des Jardins, Environmental Ethics, 215. Arne Naess, one of the founders of the deep ecology movement, says that this would "affect basic economic and ideological structures." See Arne Naess, "A Defense of the Deep Ecology Movement," Environmental Ethics 6 (Fall 1984), 265. For further reading on the deep ecology meaning of well-being see Bill Devall and George Sessions, Deep Ecology: Living as if Nature Mattered (Salt Lake City: Peregrine Smith Books, 1985).

<sup>129</sup> The neo-paganism of contemporary Goddess traditions hold that the cosmos is a living body. For example see Starhawk, "Feminism, Earth-based Spirituality, and Eco-Feminism," in Healing

Ecological economists too have begun to realize that well-being involves much more than the satisfaction of preferences, or the accumulation of capital. For example, John Hobson (1858-1940) defined the ultimate end of the economic system to be 'organic welfare'.<sup>130</sup> Robert Costanza and Herman Daly hold that true wealth is nothing less than "the capacity to support life and the enjoyment thereof."<sup>131</sup> Johan Holmberg and Richard Sandbrook introduce the concept of 'primary environmental care' (PEC). This is a process for progressing toward sustainability. It combines attempts to raise productivity (a concern at the economic level) and welfare of the poor (a concern at the market level), with concern for the environment (a concern at the ecological level).<sup>132</sup> This too looks like a shift toward a notion of wellness as the value of ecologies. Neva R. Goodwin, in an essay on ethical issues in ecological economics sums it up: it has become rational for human beings to go beyond valuing simple utility or wealth; it is now considered to be rational to care about the environmental crisis and to value healthy survival.<sup>133</sup>

Notions of wellness associated with talk of ecologies have clearly been divorced already from the notions of utility and riches, or welfare and wealth. The tendency to make this separation is evident in such diverse areas of study as environmental ethics, theology, steady-state economics and ecological economics. Our examples have come from all of these perspectives. A common

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the Wounds: The Promise of Ecofeminism, ed. Judith Plant (Santa Cruz, Calif.: New Society, 1989). Contemporary native American writers speak of 'Grandmother Earth.' See Paula Gunn Allen, "The Woman I Love Is a Planet, The Planet I Love Is a Tree," in Reweaving the World: The Emergence of Ecofeminism, eds. Irene Diamond and Gloria Orenstein (San Francisco: Sierra Club Books, 1990), 52. Charlene Spretnak says "I am that part of the rain forest recently emerged into thinking." See Charlene Spretnak, States of Grace: The Recovery of Meaning in the Postmodern Age (New York: Harper & Row, 1991), 113.

<sup>130</sup>John A. Hobson, Wealth and Life: A Study in Values (London, 1929), 328.

<sup>131</sup>Costanza and Daly, "Toward an Ecological Economics," 3.

<sup>132</sup>Holmberg and Sandbrook, "Sustainable Development," 19-38.

<sup>133</sup>Krishnan, A Survey of Ecological Economics, 329.

thread running throughout discussions that make this separation is some grasp of human industry as being ecological. Although the notion of an ecology is understood in very diverse ways, and to varying degrees, a link is made between ecologies and some notion of well-being. This concern with the ecological nature of human industry and its impact on well-being may be defined as a concern with the notion of health as typically defined.<sup>134</sup> It may not be amiss to say that the notion of 'health' best describes the value to be considered when ecologies, as a good of order, and stability, as a particular good, are objects of rational choice.

#### 3.4.4 *Summary*

We have examined the ecological form of human industry in terms of the three aspects of the good. (See Table 3-4)

**Table 3-4 Structure of the ecological good**

| Particular Good | Good of Order | Value  |
|-----------------|---------------|--------|
| Stability       | Ecology       | Health |

I have argued that an ecology has as its function the provision of stability against perturbations in service of maintaining health.

### 3.5. The Dominant Aspects of the Good

Because the structure of the good is isomorphic with the structure of being and with the operations of knowing, particular goods, goods of order and values cannot and do not stand alone; they are aspects of the same proportionate good.

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<sup>134</sup>Health may be defined as a sense of well-being (physical, mental, or social); effective functioning, both within the individual and by the individual in his environment. S. Howard Bartley, *Life and Health*, 2nd ed. (New York: Random House, 1976). The World Health Organization's definition is similar: "Health consists of a sense of physical, mental, and social well-being, and not merely the absence of disease or infirmity. *Ibid.*, .409. It seems that the central notion has to do with integrity of a whole.

Nevertheless, one aspect may dominate over the others insofar as the particular good and the good of order both can be objects of rational choice, and thus one could choose the good for reasons pertaining more to the particular good than the good of order which leads to it, or visa versa.<sup>135</sup> Furthermore, it may occur that the particular good is desired more so than its good of order is understood. For example, one can want to get rich on the stock market yet not have the first clue about how it happens with any regularity. It can also occur that the good of order is understood more than the fruits of its operation are desired. Thus, for example, the civil society created in part by the operation of prisons has the undesirable side-effect of robbing people of their freedom. Finally, we can consider alternatives as valuable even if they don't bring the pleasures one would desire. A doctoral dissertation comes to mind. In short, it is possible that one aspect of the good can dominate over the others.

Utilitarianism has long informed the classical and neoclassical economic positions.<sup>136</sup> The primary concern of the market is understood here as the utilitarian desire to satisfy wants through the acquisition of goods and services. This is not to say that exchange schemes are not understood or that welfare is not chosen as a legitimate value, but that the satisfaction of particular goods can take precedent over understanding and rational choosing. The primary concern with entering a market is to get the things and services wanted or needed. It would seem to be a reasonable observation that the market conjugate form may be dominated by a primary focus on the good taken in its particular aspect of stock acquisition.

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<sup>135</sup>Once again, it is important to stress that particular objects of appetite are values too insofar as they lie within a good of order: it is not sheer appetite but intelligently ordered appetite that can be valued. Lonergan, Understanding and Being, 226.

<sup>136</sup>Krishnan, A Survey of Ecological Economics, 300. See also Talbot Page, "Intergenerational Justice," 38-58.

generated. But she is more interested in determining the impact of our valuing wealth. The ecologist may acknowledge that we get the things we need and want by exchanging them. But she is more interested in determining the impact of our valuing human welfare. And the impact which is of interest, is the impact such choices have on the resilience of any ecology against perturbations that follow as a consequence of our making one object the object of choice over another. In short, it would appear that the ecological perspective on sustainable economic development has value as its dominant aspect of the proportionate good.

As a brief aside, it is interesting to speculate on the question of whether or not the tendency to focus on one aspect of the good over others gives rise to a dominant ethos. For instance, is there a utilitarian ethos attached to the market form because it is dominated by the particular good? At this level do I participate in human industry because I get the things and services I want by doing so?<sup>137</sup> The Utilitarian roots of modern economics and its indefatigable worry over markets would strongly suggest this. Secondly, is there a consequentialist ethos attached to the economic form because it is dominated by the good of order? At this level is it important to run the economy properly because we understand the dire consequences if we don't? The constant barrage of 'state-of-the-economy' reports, the endless tinkering with world economies would argue in favour of this interpretation. Finally, is there a teleological ethos attached to the ecological form because it is dominated by value? Does it anticipate some overarching structure and indeterminate trajectory in our choosing economic paths? The wide interest by theologians and religious groups in ecological aspects of sustainable

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<sup>137</sup>Some think so. See Krishnan, A Survey of Ecological Economics 109.

economic development and the creation of quasi-religious approaches in the ecological movement would suggest this <sup>138</sup>

In any case, the next chapter will explore how transformation of human industry effects a shift in the dominant focus from the particular good, to the good of order, to value.

### 3.6. Conclusion

This chapter has been a study of the three different versions of the good constituted by the three different conjugate forms of human industry.

The first part outlined Bernard Lonergan's theory of the good. I have sought to explain that there is an isomorphism between knowing, being, and the good. The second part explored the market conjugate form of human industry and determined that market exchange has as its function the regular acquisition of things and services to be utilized in service of human welfare. The third part examined the economic conjugate form and demonstrated that the circulation of capital has as its function the regular accumulation of profits to be obtained in service of generating wealth. The fourth part explored the ecological conjugate form and argued that an ecology has as its function the provision of stability against perturbations, in service of maintaining health. In the fifth and final part I discussed how each conjugate form seems dominated by a different and specific aspect of the good; the market form by the particular good of stock acquisition, the economic form by the good of order of capital circulation, and the ecological conjugate form by the value of health. These economic forms of the good are

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<sup>138</sup>In other words, does economic activity have a natural end, some to-be-known? See James F Childress and John Macquarrie, eds , The Westminster Dictionary of Christian Ethics, 2d ed. , (Philadelphia. The Westminster Press, 1986) , s v "Natural Law, " by Gerald Hughes, 413

presented in Table 3-5, with the dominant aspects of the good highlighted for each conjugate form of human industry.

**Table 3-5 Forms of the good of human industry**

| <b>Economic Form</b> | <b>Particular Good</b> | <b>Good of Order</b> | <b>Value</b>   |
|----------------------|------------------------|----------------------|----------------|
| <b>Market</b>        | <b>Stock</b>           | <b>Exchange</b>      | <b>Welfare</b> |
| <b>Economy</b>       | <b>Profit</b>          | <b>Circulation</b>   | <b>Wealth</b>  |
| <b>Ecology</b>       | <b>Stability</b>       | <b>Ecology</b>       | <b>Health</b>  |

It appears that the conjugate forms differentiated in Chapter Two provide a reasonable framework for understanding why we have historically valued different economic set-ups, and why we have desired different satisfactions from these set-ups. We exchange things and services with one another because they function in service of want-satisfaction. We ensure a good supply of these things and services through the operation of the good of order of a market. We invest money in order to make profits. We constantly fiddle with national inflation rates, taxation rules, we buy up our own currency, float bonds and debentures all in an attempt to control the good of order of circulation of capital. We rally around causes such as saving peregrine falcons or dusky seaside sparrows because they represent the stability of elements within ecologies. We improve the chances of their survival by promoting the overall resilience of such ecologies. Whether we find such causes as vital to our survival or just silly sentimentality depends upon what form of human industry we understand and rationally choose. The same goes for why we value or disvalue interventionism or laissez-faire economics. Quite simply, what we find good about human industry depends upon our understanding of the form of that activity.

In the next chapter I shall demonstrate that this differentiation affords a more comprehensive explanation of what economic change and transformation means, and why we have apparent conflicting opinions about what sustainable economic development is and how we ought to go about achieving it.



## CHAPTER FOUR

### TRANSFORMATION

What does economic development mean? When we set out to transform our economy, what precisely is it we set out to do? Do we use the term 'transformation' only metaphorically? If not, then what meaning do we commonly give to the term 'form?' Is economic transformation simply change? Is it purposeful change in some direction? Is it a change for the better? If so, what constitutes better human industry? Is it improved access to goods and services? Is it getting richer? Is it an economy that becomes more harmonious with its environment? As we have seen in Chapter One, many authors regard the turn toward sustainable economic development as no less than the transformation of human industry. However, the lack of a clear definition of form and the lack of a sharp differentiation between forms raises many questions about the significance and meaning of this transformation. Consequently, there has emerged many confused common sense versions of development and transformation.

In the preceding chapters I have laid the groundwork for a more fully differentiated definition of what entails transformation and development of human industry . The aim of this chapter is to suggest that sustainable development of human industry is by definition a relentless and infinite transformation of human industry to successively higher, more fully differentiated forms. Accordingly, in the first part I begin by examining the

common sense notions of development as they pertain to the market, economic, and ecological forms of human industry. This exercise will provide us with a powerful tool for understanding the apparent conflicts among the many notions of sustainable economic development that we have encountered in Chapter One. In the second section I note that, as opposed to the common sense versions of development, real development of human industry involves a radical transformation from the market form, to the economic form, to the ecological form. The third part defines real development of human industry. The fourth part discusses how the radical transformation to the higher form is effected. In the fifth part I examine how the emergence of each form of development is in direct response to the shortcomings of the lower form of development. In the final section I observe that there is an underlying unifying principle in this series of forms of development that functions heuristically to guide our discovery of the real meaning of development and transformation.

The common sense term 'sustainable,' 'economic,' 'development,' and 'transformation' present us with a potential source of confusion for understanding transformation. In the preceding chapters I have differentiated the forms of human industry such that the term 'economic' has a precise explanatory meaning, whereas the common sense usage often reflects a conflation of market and economic forms. Secondly, in this chapter I will arrive at very precise definitions of the notions of 'development', 'sustainable,' and 'transformation' that are also quite different from the common sense usage of those terms. Henceforth, when the words transformation, sustainable, economic, and development are written without quotation marks, the words will be employed in accord with our differentiated definitions; when they appear within quotation

marks, they will be employed in accord with the various and mixed common sense meanings found in the literature.

#### 4.1. Common Sense Versions of 'Economic Development'

This section is a thought exercise. So far I have outlined a differentiated taxonomy of the forms of human industry and the corresponding aspects of the proportionate good. As indicated in Chapter One, complete differentiation like this is rare in the literature. Often what is presented is a conflated and confused version of all three forms. Not surprisingly, so too are the common sense versions of 'sustainable development' confused and conflated.<sup>1</sup> Consequently, we are confronted with a preliminary problem. Before I can demonstrate why common sense versions of 'sustainable economic development' are not real forms of development, I must first separate the confused and conflated common sense versions from one another. The framework I have already established lends itself quite well to this task. Because human industry can be understood in terms of three forms, there arises a technique for differentiating between the various common sense meanings of 'development.' We can look at the three aspects of the proportionate good in terms of each form of human industry and ask how each aspect of the good would be improved if restricted to the terms of that form.

##### 4.1.1 *Expansion as 'Development'*

What is the difference between a so-called 'well-developed' market and an 'under-developed market?' In a so-called 'developed' market one can acquire many more goods and services, better goods and services, more useful goods and services, all with greater ease. Thus a so-called 'developed' market is characterized by improved quantity, quality, utility, and facility. In Chapter Two

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<sup>1</sup>For example, we want better economies but think that means making bigger markets; we want more resilient ecologies but think that means curtailing economic growth.

I cited an example from Adam Smith in which he associated the notion of 'convenience' with the opening up of markets. Perhaps it is fitting, then, to say that, from the aspect of the particular good, market 'development' involves improved convenience.<sup>2</sup>

However, if improving convenience is not to be a fleeting matter, then market 'development' must also mean improving opportunities for exchange. This involves not only an increase in the frequency of opportunities for exchange, but also an increase in the kinds of opportunities. What is required is a complexification of the schemes of recurrence of exchange events, such that more and more permutations and combinations of moments of exchange are intesuccpted. We may say, then, that market 'development' also involves a certain kind of proliferation of opportunities for exchange.<sup>3</sup>

When improved convenience is desired and proliferation of exchange opportunities is understood to be the rational means by which such convenience is improved regularly, what kind of 'development' is to be valued? May we say that there is an expansion, if you will, in utility or welfare?<sup>4</sup> It seems appropriate to say that the provision of convenience brought about by proliferation of

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<sup>2</sup>I use the word convenience in the broadest sense to imply material advantage, ease in use or action.

<sup>3</sup>I use the word proliferation in a strict sense to convey the idea of offspring, exchange opportunities beget improved exchange opportunities. The organic notion of budding may be the apt metaphor, exchange opportunities reproduce themselves so to speak.

<sup>4</sup>This is not to imply that there is a concomitant necessary extension of the market, for there is a vast difference between expansion and extension. Markets do not need to extend in order to expand, but utility will expand if exchanges proliferate, for it is by each and every exchange that stocks are obtained in service of wants. As proliferation occurs, the network of opportunities to exchange becomes more complex, cross-linkages proliferate. The market expands because there is an intrication of these linkages, an interlacing, and interweaving, leading to an ever broadening range of opportunities for purchasers and sellers to complete transactions. This does not imply that there is extension across space. It does imply the creation of new networks of linkages where they did not occur before.

exchange opportunities may be called market expansion. The three aspects of the common sense notion of market 'development' are summarized in Table 4-1.

Table 4-1 Expansion as 'development'

| Form          | Particular Good | Good of Order | Value     |
|---------------|-----------------|---------------|-----------|
| Market        | Stock           | Exchange      | Welfare   |
| 'Development' | Convenience     | Proliferation | Expansion |

#### 4.1.2 Growth as 'Development'

Recall that the particular good of the economic form is return on capital, or profit. From this perspective then, common sense economic 'development' occurs when the rate of return on capital increases. I shall keep with the name 'profit' to describe this common sense form of 'development' of the particular good, with the understanding that economic 'development' entails not an increased return of capital but an increased rate of return of capital.

There has been a common misunderstanding that economic 'development' means increased production and output of stock. As one critic of this position remarked, "economists and policy makers the world over regard the expansion of physical output - i.e. production growth - as *the* measure of economic progress and success, and as an indicator of increasing welfare as well."<sup>5</sup> Indeed, it has been said that most economic 'development' strategies are driven by the underlying premise that the central task of development is to increase output.<sup>6</sup> Respected economist Masudul Alam Choudhury clearly speaks of economic 'development' in this way.

<sup>5</sup>Krishnan, *A Survey of Ecological Economics*, 246. Here the common sense notion of welfare is taken to mean well-being, not the formal definition we have ascribed to it.

<sup>6</sup>*Ibid.*, 299.

The concept of economic growth is understood in terms of its goals and targets. These are to achieve steady state increase in the aggregate output of production. The output can be measured in several ways: as gross output measured in market value; real output in constant value; per capita output or real per capita output. Each of the indicators has a different significance to convey in the generation and effectiveness of economic activity on the prospect of economic growth in the aggregate. The indicators of growth are then measured in terms of the percentage rate of change of the above indicators of aggregate output."<sup>7</sup>

But John Kenneth Galbraith warns against the assumption that growth in output is economic 'development'. He says that we must distinguish sharply between output and throughput. Galbraith says that the volume of capital formation (i.e. the rate of creation of productive plant and equipment) is the true indicator of economic growth.<sup>8</sup> Economic 'development' is not so much dependent on producing more material goods and services *per se*, but with increasing the rate of capital formation, and thereby with increasing the rate of return on capital. In other words, for Galbraith, economic 'development' is not so much concerned with increasing output as with accelerating throughput via increased means of production. If this interpretation of Galbraith is correct, and it is accelerated throughput of capital, and not increased output of stocks which he judges to be at the heart of the economic version of 'development', then his position is in agreement with our understanding that economic 'development,' taken at the level of the good of order, seems to pertain to acceleration of capital circulation.<sup>9</sup>

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<sup>7</sup>Choudhury, Economic Theory and Social Institutions, 201. Like Amartya Sen, he argues that development is understood in terms of its ends. He supposes human industry to be effective when it results in economic growth, as determined by percentage change in indicators of aggregate output.

<sup>8</sup>Galbraith, The Affluent Society, 221ff.

<sup>9</sup> Increased volume of capital formation creates the disequilibrium between basic and surplus functions necessary for the increase in rates of return on capital. See Lonergan, "Circulation Analysis," Chapter Three on how disequilibrium is necessary for change in the rates of return on capital. This would fit well with our previous discussion.

Bernard Lonergan also seems to have associated acceleration of capital with the good of order of economic 'development.' He believed that an economy provides some procedure which sets the balance between the production of consumer goods and new capital formation; some method that settles what quantities of what goods and services are to be supplied; some device for assigning tasks to individuals and for distributing the common product among them.<sup>10</sup> In short, he maintained that the economy provides the structure for regulating and improving the circulation of capital. He also maintained that the improvement in the rate of circulation of money has to do with the so-called velocity of the movement of money through the circuit of the monetary functions (briefly outlined in the previous chapter). But as Lonergan notes, not just any change in velocity is relevant.

A change in the rapidity with which money changes hands is in itself impotent to effect circuit acceleration; what is needed is a change in the circuit velocity of money, in the rapidity with which money performs a circuit of work, moving say from expenditure through receipts, outlay, income back to expenditure. This difference is important. For, while the rapidity with which money changes hands is a highly indeterminate concept, the rapidity with which money performs a circuit of work may be correlated exactly to turnover frequencies of industry and commerce.<sup>11</sup>

In terms of circulation then, we have 'development' when there is acceleration in this turnover frequency because of its correlation with turnover frequency in exchange. It is crucial to note that Lonergan understood the relationship between turnover frequency involving the velocity of money, and turnover frequency in exchange as a correlation and not an identity. While there is a correlation between increased output of stocks and accelerated capital circulation, this is so only insofar as a circuit of work is performed. It would seem that this is an

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<sup>10</sup>Lonergan, *Insight*, 234.

<sup>11</sup>Lonergan, "Circulation Analysis," 42.

implicit recognition of the differentiation I have made between the market and economic forms.<sup>12</sup>

And so, in terms of the good of order of the economic conjugate form, we may say that economic 'development' is the acceleration of capital turnover frequency

What we value when profit is intelligently desired and acceleration of capital is understood to be the rational means by which such profit is increased appears to be defined by the common notion of growth of capital or growth of the economy<sup>13</sup> Since the term growth has long been associated with the common sense form of economic 'development,' I shall retain it here, with the clear understanding that I do not mean to imply the conflated version that holds increased output of stocks and acceleration of capital circulation to be identical<sup>14</sup> The three aspects of economic 'development' are summarized in Table 4-2.

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<sup>12</sup>Ibid , 43ff Lonergan concluded that capital, in effect, is a catalyst which imparts an acceleration to the stream of useful things Lonergan, *Insight*, 235 Notice that Lonergan's point is that capital is a catalysts Whereas incidence of exchange provide opportunity to acquires stocks, capital functions to control the rate of such exchanges indirectly by controlling the flow of capital through the various monetary functions

<sup>13</sup>Daly, "Consumption and Welfare," 462

<sup>14</sup>It would appear that Galbraith's position is tacit acknowledgment of the conflation of the market and economic forms of development Concern with increased output of stocks is really concern over the development of the particular good of the market conjugate form, that is to say, it is concern with improving convenience On the other hand, concern over improving capital circulation (or throughputs) is concern over development of the good of order at the level of the economic conjugate form, that is to say, it is concern with improving capital circulation When Galbraith criticizes the growth-in-output notion of economic development and replaces it with a model based upon throughputs, he is implicitly differentiating between the market forms and economic forms, and between the particular good and good of order aspects of these respective forms In short, a coherent rejection of the growth-in-output model of economic development seems to require a differentiation (even if only implicitly) of the market and economic forms of the good of human economic activity, and a further differentiation of the aspects of proportionate good.



Table 4-2 Growth as 'development'

| Form          | Particular Good     | Good of Order | Value  |
|---------------|---------------------|---------------|--------|
| Economy       | Profit              | Circulation   | Wealth |
| 'Development' | Profit Maximization | Acceleration  | Growth |

#### 4.1.3 *Epigenesis as 'Development'*

Recall that the particular good of the ecological conjugate form is stability of an ecology's components in the face of perturbation. Improved stability, the form of 'development' desired from the perspective of this particular good, is what I shall mean by the term 'persistence.'

Recall also that the good of order which gives rise to stability is an ecology, or flexible circle of ranges of schemes of recurrence of events. Improved resilience of these ecologies, or increased flexibility of the circle of ranges of schemes is what is meant by 'development' from this aspect of the good. It is their capacity to intussuscept fresh elements, to incorporate or take them up into existing schemes, and then to link the sequences of intussusceptions in a dynamic unfolding pattern which marks 'developing' ecologies.<sup>15</sup> In other words, 'development' at the ecological level of the good of order involves an increased capacity for self-adaptation. As the Holling model indicates, ecosystems that are open with respect to energy flows have a tendency to self-organize within the constraints imposed by an evolutionary and fluctuating environment. To state it in terms of energetics, the ecology has an ability to "accommodate the stress imposed by its environment through selection of a different operating point along the same thermodynamic path without undergoing some catastrophic

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<sup>15</sup> Development in the ecological sense is not concerned with static balance but dynamic balance. This is what the Lovins and others imply, when they argue that rigidity is the death knell for ecological resilience. See Lovins and Lovins, *Brittle Power*, 191.

change in organizational structure."<sup>16</sup> From the aspect of the good of order, then, we may say that ecological 'development' is best understood in terms of a process of accommodation.<sup>17</sup>

When persistence is the version of 'development' that is desired, and a process of accommodation is understood to be the rational means by which such persistence is consistently 'developed,' what, may we say, is to be valued? What we value seems to be a process of gradual self-generated diversification and differentiation in the flexible circles of ranges of schemes of recurrence. Jane Jacobs has alluded to this when she remarked that city development is more a process of epigenesis than preformation.

One of the great debates in the history of embryology was between proponents of 'preformation' and 'epigenesis.' The first group erroneously believed that the development of an embryo was a process of enlarging what was already there. The proponents of epigenesis believed that development of the embryo was a process of gradual diversification and differentiation of tissue from an initially undifferentiated entity. It was they who were on the right track. A city is not an animal, but I think there is an apt analogy here. People who think of cities simply as towns that have kept growing larger are believers in a 'preformation' theory of city growth, an enlargement of what is essentially already there. I am arguing, rather, an 'epigenesis' theory of cities. the idea that a city grows by a process of gradual diversification and differentiation of its economy, starting from little or nothing more than its initial export work and the supplies to that work. If I am correct, cities radically differ in their growth processes from inert towns and from villages *even when they are still as small as towns or villages*.<sup>18</sup>

Epigenesis then, is an increased capacity for gradual diversification and differentiation of economic activity inextricable with the diversification and differentiation of other concomitant and complimentary kinds of ranges of

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<sup>16</sup>Common and Perrings, "Towards an Ecological Economics," 18. The path referred to here is the adiabatic pathway discussed in Chapter One footnote, # 60.

<sup>17</sup>The Oxford International Dictionary of the English Language (Unabridged), 1957 rev. ed., s.v. "accommodation."

<sup>18</sup>Jacobs, Economy of Cities, 129. Jacobs does not seem to differentiate the meaning of human economic activity into economic and market forms. Thus she uses the term 'economy' to refer to what I have defined as 'market form.'

schemes of recurrence. From the aspect of value, then, we may say that common sense ecological 'development' can be understood in terms of a process of epigenesis.<sup>19</sup>

Table 4-3 Epigenesis as 'development'

| Form          | Particular Good | Good of Order | Value      |
|---------------|-----------------|---------------|------------|
| Ecology       | Stability       | Ecology       | Health     |
| 'Development' | Persistence     | Accommodation | Epigenesis |

#### 4.1.4 Summary

The goal of this section has been to differentiate the common sense versions of 'economic development.' I have examined 'development' from the perspective of the particular good, the good of order, and value, with the understanding that these aspects of the good have their ontological and cognitional counterparts in conjugate potency, form, act, and experience, understanding and judgment respectively. The results are summarized in Table 4-4.

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<sup>19</sup> The notion of biodiversity implies a similar value. However, because it tends to separate, quite pejoratively, human industry from so-called 'natural' or biological schemes, this term becomes restrictive. We maintain that human economic activity is as much ecological as any other intelligible flexible circle of ranges of schemes of recurrence of events. As such it too can undergo diversification and differentiation just as any other species of ecology. Incidentally, in referring to growth of living organisms, Lonergan uses the term 'self-mediation' to mean the capacity of an organism to originate itself by giving rise to physical parts within itself. See Lonergan, Philosophical and Theological Papers, 167. While there is a parallel here with our notion of epigenesis, I do not mean to imply that an ecology is alive or that it is necessarily some thing.

Table 4-4 Summary of common sense versions of 'development'

| Version of<br>'Development' | Particular Good | Good of Order | Value      |
|-----------------------------|-----------------|---------------|------------|
| Market                      | Convenience     | Proliferation | Expansion  |
| Economic                    | Profit          | Acceleration  | Growth     |
| Ecological                  | Persistence     | Accommodation | Epigenesis |

It is clear that the understood and affirmed conjugate form restricts the kind of 'development' understood to take place through human industry. If one grasps human industry only in terms of the market conjugate form, then market expansion will be the rationally chosen common sense version of 'development;' it will require market proliferation, and this proliferation will serve to improve convenience. If one grasps human industry only in terms of the economic conjugate form, then economic growth will be the rationally chosen common sense version of 'development;' it will require acceleration of the circulation of capital, and by this acceleration greater profits can be expected (*ceteris paribus*). If one grasps human industry only in terms of the ecological conjugate form then epigenesis will be the rationally chosen common sense version of 'development;' it will require self-adaptation of ecologies, and by this accommodation ecologies will make persistent the events of those ecologies. If we understand and affirm an amorphous hybrid of these three distinct versions, then our notion of what constitutes desirable, intelligent and rational 'economic development' will also be confused.

From this exercise, we can also see some of the sources of controversy surrounding the meaning of sustainable development. The advocate of the market wants market expansion; the economist wants economic growth, the

ecologist wants epigenesis. And depending which common sense version dominates in the event of a conflated approach, the participant in human industry will be pulled in one direction or another, especially when empirical research brings it to light that pursuit of one common sense form of 'development' is often at the expense of another. Consequently, the economist may reluctantly opt for economic growth with the awareness that ecologies are being destroyed. The ecologist may forfeit things like fur coats, even if they are warm. The runner may buy name-brand track shoes knowing that doing so contributes to the destruction of economic stability in third-world countries. As we pursue our common sense versions of 'development,' we are confronted with the scope of our limited horizons. But regardless of limitations, common sense dictates that we still have to get on with the job of daily living. And so we gravitate in one direction or another. We find solace in the group that, even if it sees some merit in other common sense versions of 'development,' nonetheless holds itself in higher esteem for having made the hard choice to do the really practical thing. Ultimately it dismisses the other versions of 'development' as the utopic schemes of dreamers. Positions harden and barriers between communities become obvious. To the extent that such barriers limit collaboration, the common sense versions of 'development' result in exactly the opposite of what we strive for; at every turn the group does all in its power to stifle other version of 'development' that would undermine its own. Activists block harbours. Agents kill them.

Nevertheless, just because it may be a mistake to make the judgment that any one of these versions of 'development' (or any conflated hybrid of them) is in and of itself real development, it is not automatically a mistake to think 1) that there are legitimate goods of order associated with them, 2) that the desired fruits

of these goods of order necessarily undermine real development, or 3) that valuing such goods of order is automatically irrational. Indeed, as we shall see soon, each common sense version of 'development' does in fact contribute to real development, but not in a way anticipated from within the horizons of that version. And as we shall see in Chapter Five, even though our common sense judgments of fact about what constitutes real development may be incorrect, the misguided judgments of value which erect these same goods of order in anticipation of 'development,' may, ultimately and in spite of our mistakes, contribute to real development after all.

## 4.2. Transformation

It is quite easy to find books on 'economic transformation' that never once define what is meant by the word 'transformation.' To avoid contributing to this confusing state of affairs, I shall immediately present my definition of real transformation. Secondly, I shall list its implications in terms of the isomorphic structure of knowing, being and the good. Thirdly, I shall speak about transformation in terms of the dominant aspects of the good as they pertain to each of the three conjugate forms of human industry.

### 4.2.1 *Transformation Defined*

The great economist Karl Polanyi provides us with one of the few glimpses of the meaning of real transformation of human industry. He argued that as feudalism gave way to capitalism, the means of production became commodities to be trucked, traded and bartered along with the products themselves. He says that feudal society had its markets, but the emergence of capitalism saw the emergence of the Market wherein it was discovered that the

means of production could be commodified too. This shift is what Polanyi calls the 'great transformation.'<sup>20</sup>

Let me cast this in my own terms. Polanyi distinguishes between 'markets' and 'Market' in the same way that I have distinguished between market conjugate form and economic conjugate form. The advent of capitalism was marked by the discovery that human industry involved not just schemes of recurrence of exchange, but circulation schemes having two distinct kinds of monetary functions; basic and surplus (see Chapter Two). The feudal market involved basic functions, whereas the discovery of transactions surrounding the means of production themselves was the discovery of a complementary set of surplus economic functions (at least implicitly from the outset). The 'great transformation' was not simply a change in markets but a transformation to a Market Economy. What was transformed was an understanding that human industry could not only be understood and affirmed in terms of market conjugates alone, but that it could be understood and affirmed also in terms of a newly discovered set of economic conjugates. In short, what Polanyi discovered is that the essence of transformation is not change in the *status quo*, but the emergence of a higher viewpoint in which whole sets of systematically recurring coincidental aggregates of events may be grasped and affirmed that would otherwise be left unaccounted for at the level of the lower form. Transformation is the radical transformation of concepts and postulates. It is in effect a move to a

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<sup>20</sup>See Karl Polanyi, The Great Transformation: The Political and Economic Origins of Our Times with a Forward by Robert M. MacIver (Boston: Beacon Press, 1944), especially Chapter Six. Thus land, labour, and capital were abstracted. As Daly and Cobb point out, the commodification of the factors of production is an abstraction that leads to misplaced concreteness. For a discussion of this problem see Daly and Cobb, For the Common Good, 60-61.

higher viewpoint.<sup>21</sup> What the feudal market could not account for, the capitalist Market could. What the Market was to become, the market could never aspire to.

#### ***4.2.2 Transformation of Proportionate Being and Proportionate Good***

Let us expand our basic definition of the transformation of human industry. Because knowing, being, and the good are in correspondence, transformation from a lower to a higher viewpoint has ontological and ethical implications. Let us include these now.

In the first place, the transformation from market conjugate form to economic conjugate form represents a grasp that market conjugates are insufficient alone to explain the essence and the good of human industry. Human industry is understood and affirmed to include not only exchange schemes of events, but circulation schemes of events as well. This transformation also represents a transformation in the proportionate good of human industry. Not only are exchange (as a good of order) and stock acquisition (as a particular good) possible objects of rational choice, but circulation (as a good of order) and profit (as a particular good) are too. In other words, the shift to the higher viewpoint of the economic conjugate form admits not only welfare but also wealth as possible values

Likewise, the transformation from the economic conjugate form to the ecological conjugate form represents a grasp that market and economic conjugates are insufficient to explain the essence and the good of human industry. Human industry is understood and affirmed to include ecological schemes of events as well as circulation and exchange schemes. This transformation also involves a further transformation of the proportionate good

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<sup>21</sup>Lonergan, *Insight*, 99 Transformation in terms of conjugate form is not the same as change for, as Lonergan strongly emphasizes, there are no changes in the realm of abstractions Ibid , 272 "change is neither the substitution of one datum for another nor the replacement of one concept by another." Ibid , 461



of human industry. Not only are welfare and wealth possible objects of rational choice, but ecology (as a good of order), and persistence (as a particular good) are too. In other words the shift to the higher viewpoint of the ecological conjugate form admits welfare, wealth, and health as possible values.

Because knowing, being, and the good are isomorphic, the radical transformation of concepts and postulates which is the move to a higher viewpoint is accompanied by a concomitant transformation of proportionate being and the proportionate good. Not only can our understanding of human industry be transformed, but the actual economy can be transformed, and what we desire from it, how we go about satisfying our desires, and what we ultimately value about it can also be transformed.

#### ***4.2.3 Transformation From Particular Good to Value***

In the last chapter I have noted that each of the three conjugate forms of human industry seems to be dominated by one specific aspect of the good over the others. The conjugate forms of the good of human industry are given once again for convenience: the dominant aspects of the good are highlighted. (see Table 4-5).

**Table 4-5 Forms of the good of human industry**

| <b>Form</b>    | <b>Particular Good</b> | <b>Good of Order</b> | <b>Value</b>   |
|----------------|------------------------|----------------------|----------------|
| <b>Market</b>  | <b>Stock</b>           | <b>Exchange</b>      | <b>Welfare</b> |
| <b>Economy</b> | <b>Profit</b>          | <b>Circulation</b>   | <b>Wealth</b>  |
| <b>Ecology</b> | <b>Stability</b>       | <b>Ecology</b>       | <b>Health</b>  |

We can see that transformation involves the good in two possible ways. Firstly, there is transformation within the aspects of the good. Thus the particular

good can be transformed from desire for stock acquisition, to include desire for return on capital, to include even further the desire for stability; the good of order can be transformed from exchange, to include circulation, to include ecology; value can be transformed from welfare to include wealth, to include health. However, because each form is dominated by one aspect of the good over the others, transformation can also involve a shift in focus from the particular good at the market level, to the good of order at the economic level, to value at the ecological level. With transformation there is a shift in focus from the particular good of stock acquisition, to the good of order of capital circulation, to valuing health. Thus we move from an emphasis on satisfying desires, to maintaining the means by which desires are satisfied, to asking about the rationality of our choices of intelligent orders and intelligently ordered desires. Our next chapter will look at how this shift from the particular good to value has far-reaching implications for the development of the human subject.

#### **4.2.4 *Summary***

Transformation involves the move to a higher viewpoint which discovers the laws that govern otherwise systematically recurring sets of coincidental aggregates of events. At the cognitional level it is the move to a higher-order understanding. At the ontological level it is the emergence of new conjugate form. At the level of the good it is predominantly a shift from the particular good to value.

However, if we understand and affirm only an amorphous hybrid of the three distinct forms of development, then the notion of transformation becomes meaningless. Transformation is reduced to some vague idea of augmentation of the same old form. Development of desire means to desired more of the same; development of the good of order means to bring the existing good of order into

finer tune; and development of the object of rational choice means reaffirming all the more resolutely the *status quo*. It is little wonder that common sense versions of 'sustainable economic development' become so entrenched and so outrageously opposed. For it becomes impossible to admit movement from one form to the next, or any implications this may have regarding learning or the meaning of truly better choices.

### 4.3. The Explanatory Meaning of Development

Our next step is to define the term development as it is to be used throughout the remainder of the dissertation

Bernard Lonergan indicates that the movement to successively higher conjugate forms can be understood in terms of several principles of development. Those of major concern to us presently are a) the principle of emergence, b) the principle of correspondence and c) the principle of development itself.<sup>22</sup>

The principle of emergence holds that otherwise coincidental manifolds of lower conjugate acts (i.e. events)<sup>23</sup> invite the higher integration effected by the next set of higher conjugate forms<sup>24</sup> I have alluded to this principle already in

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<sup>22</sup>The other principles, which are certainly crucial for understanding Lonergan's theory of development, are not central to our present discussion. The interested reader can refer to *Ibid* , 476-484 for a complete explanation

<sup>23</sup>Conjugate act and event (or occurrence) are synonymous. *Ibid* , 462. Central acts is existence because what exists is the intelligible unity whole discovered in central form. *Ibid* , 472

<sup>24</sup>Lonergan sites several examples to clarify. The chemical elements are higher integrations of otherwise coincidental manifolds of subatomic events, without the formal intelligibility introduced by the chemical elements, systematic schemes of recurrence of subatomic events would be coincidental. Likewise, organisms are higher integrations of otherwise coincidental manifolds of chemical processes, Krebb's cycle, the process of gluconeogenesis, the conversion of ADP to ATP, etc. in the organism would be systematic schemes of recurrence of chemical reactions that would remain unaccounted for by the laws governing chemical process. As another example, Lonergan says that sensitive consciousness is a higher integration of otherwise coincidental manifolds of changes in neural tissues, the synaptic function of nerve endings, the release and take-up of neurotransmitters like acetylcholine, the movement to and fro of sodium and potassium across dendrite membranes would all be happy coincidences without the higher integration effected by sensitive consciousness of pain, hot, cold, smell, taste, sight, and sound. Even our accumulating insights are higher integrations of otherwise coincidental manifolds of

Chapter Two. Thus the sets of economic conjugate forms is the higher integration invited by the otherwise coincidental manifolds of lower conjugate acts (events) occurring along with the understood and affirmed market events; it is the higher integration of the otherwise coincidental manifolds of systematically recurring events not accounted for under the sets of market conjugate forms. Likewise, the sets of ecological conjugate forms is the higher integration invited by the lower conjugate acts (events) occurring along with the economic events; it is the higher integration of the otherwise coincidental manifolds of events not accounted for under the sets of economic conjugate forms. In each case, otherwise coincidental manifolds of lower conjugate acts (events) invite the higher integration effected by the next set of higher conjugate forms. Thus a new higher integration or conjugate form is introduced by the principle of emergence.

The principle of correspondence holds that significantly different underlying manifolds of events require different higher integrations. Lonergan uses the example of chemical elements. They differ by atomic numbers and weights and these differences are grounded in the underlying manifold. Likewise he notes that different aggregates of aggregates of chemical processes involve different organisms. Neural events in the eye and in the ear result in different conscious experiences.

Different data lead to different theories. It is true, of course, that not every difference in the underlying manifold demands a different integration; the same theory can be reached from different data. Accordingly, the principle of correspondence enjoys a measure of flexibility; within limits the same higher integration will systematize differing manifolds; the point to the principle is that these limits exist and that to transgress them is to eliminate the higher integration.<sup>25</sup>

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images or of other data of sensory experience. See *Ibid.*, 477. Lonergan reiterates his discussion of the relationship between lower conjugate acts and the emergence of higher conjugate forms in Lonergan, *Understanding and Being*, 204-205.

<sup>25</sup>Lonergan, *Insight*, 477.

I have also alluded to the principle of correspondence in Chapter Two. For example, the market conjugate acts (market events) affirmed by Jane Jacobs correspond to the integrations of the market conjugate form, yet this conjugate form could not account for the economic conjugate acts (economic events) affirmed by the fishmonger. Likewise, while the economic conjugate form could account for the economic events, it could not account for the ecological conjugate acts (ecological events) affirmed by Aldo Leopold. In each case there is a correspondence between the underlying manifolds of conjugate acts such that they require significantly different higher integrations. By the principle of correspondence, there must be correspondence between the conjugate form and the conjugate act; when otherwise coincidental manifolds of lower conjugate acts are outstanding, so to speak, an existing integration must be eliminated and replaced by a higher one.<sup>26</sup> This elimination and replacement by a higher integration involves the principle of correspondence.<sup>27</sup>

Finally, there is the principle of development itself. It is the linked sequence of dynamic higher integrations.

An initial coincidental manifold is systematized and modified by a higher integration so as to call forth a second; the second leads to a third; the third to a fourth; and so on . . . <sup>28</sup>

The initial coincidental manifold of events or conjugate acts surrounding human industry is systematized and modified by the higher integration of the market conjugate form. The remaining coincidental manifold of events is further systematized and modified by a second higher integration; the economic

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<sup>26</sup>Loneragan, *Insight*, 478. Perhaps it is the failure to admit the principle of correspondence that leads to the conflation of market, economy and ecology in many discussions of economic development.

<sup>27</sup>*Ibid.*, 478. It is because of the principle of correspondence that the distinctions between market, economic, and ecological events introduced in Chapter Two are not arbitrary.

<sup>28</sup>*Ibid.*, 478.

conjugate form. The remaining coincidental manifold of conjugate acts calls forth a third integration; the ecological conjugate form. By the principles of emergence and correspondence, there is called forth the linked sequence of dynamic higher integrations. This linked sequence of market, economic, and ecological conjugate forms is representative of the principle of development itself. Moreover, the course of development from the market form to the economic, to the ecological, is characterized by an increasing explanatory differentiation.<sup>29</sup> Whereas the market conjugate form can account for the market conjugate acts (market events), the economic form can account for market and economic conjugate acts. Likewise, the ecological form can account for ecological, economic, and market conjugate acts. At first our descriptions and explanations of human industry may be limited to showing how we get the things and services we want. Then, by the process of development, we learn how to explain and control incredibly complex economic systems that heretofore were considered to be guided by some 'invisible hand.' Not only do we know how to get what we want, but we know why it is possible. By even further development we are confronted with the awesome realization that our economic activity has almost unimaginable ramifications that extend into every facet of our known universe of being. What we want, and how we go about getting it literally changes everything, always. With each new level of discovery, with each new realization, and with each new understanding of the good we achieve through our industry, we are caught up in a process guided by the principle of development.<sup>30</sup>

Perhaps this discussion of principles is sufficient to provide for us an adequate context for understanding Lonergan's formal definition of development.

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<sup>29</sup>Ibid. , 478.

<sup>30</sup>Ibid. , 478.

In light of the foregoing considerations, a development may be defined as a flexible, linked sequence of dynamic and increasingly differentiated higher integrations that meet the tension of successively transformed underlying manifolds through successive applications of the principles of correspondence and emergence.<sup>31</sup>

In our case, the dynamic and increasingly differentiated higher integrations are of course the market conjugate form, the economic conjugate form, and the ecological conjugate form. The successively transformed manifolds are the market events, economic events, and ecological events; i.e. the sets of aggregates of aggregates of events surrounding human industry. By adapting Lonergan's general definition, let me define what I mean by the term 'development of human industry' It is the flexible linked sequence of dynamic and increasingly differentiated higher integrations I have named 'market conjugate form,' 'economic conjugate form,' and 'ecological conjugate form.'

Let me clarify my definition by contrast. By development of human industry I do not mean any notion of preformation. Just as Jane Jacobs rejects the idea that cities are just bigger versions of towns, so too do I reject the idea that economies are just bigger markets. Development is not more of the same. Likewise, by development of human industry I do not mean a more finely tuned or even static economy. A better machine is not the answer. Furthermore, I do not see it as development to reverse market expansion or halt economic growth no matter how troublesome they may be; development is not the rejection of objects of rational choice. For me, the exigencies of the market, the problems of economic growth, and the perturbations to our environment caused by our industry are all part of the development of human industry. So too is a grasp of that fact. But I get ahead of myself, for this is the topic of the final chapter.

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<sup>31</sup>Ibid. , 479. Development is from undifferentiated to differentiated. See Lonergan, Method, 138.

Let me complete this section. Development of human industry is the process by which human industry is transformed. The transformation effected through the process brings us from the market conjugate form, to the economic conjugate form, to the ecological conjugate form of human industry.

#### 4.4. Operators

This section discusses how the radical transformation to the higher viewpoint, the higher form, the higher good, is affected. As a first step, I must set out some of the basic terms and concepts we shall employ. This involves us first in an exploration of the static and dynamic aspects of development. I shall discuss the static aspect of the development of human industry under the heading of integrators. Then I shall discuss the dynamic aspect of the development of human industry under the heading of operators.

##### 4.4.1 *Integrators*

To reiterate, I have noted that a set of conjugate forms is understood to be a higher system when it systematizes what would otherwise remain a coincidental manifold within the context of the verified and explained terms of a lower conjugate form.<sup>32</sup> The higher system itself is the set of conjugate forms.<sup>33</sup>

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<sup>32</sup>This is explained in detail in Chapter Eight of *Insight* in a discussion of things and genus as explanatory, and again in the parallel metaphysical discussion of the same in Chapter Fifteen. See Lonergan, *Insight*, 255-257 and 437-439. It must be stressed that concrete and intelligible unities (i.e. things) are also known by the cognitional act of understanding, thus things are forms. It is tempting to assume that such central form is known by taking a look, however, neither conjugate form nor central form of proportionate being is to be known outside of insight, or understanding. *Ibid.*, 436. Central form is different from conjugate form because the components of proportionate being to be known in conjugate form and central form rely on different types of insights. "Now the notion of a thing is grounded in an insight that grasps, not relations between data [i.e. as in the formulation of experiential conjugates, explanatory conjugates, and probabilities] but a unity, identity, whole in data, and this unity is grasped, not by considering data from any abstractive viewpoint, but by taking them in their concrete individuality and the totality of their aspects." *Ibid.*, 271. Nonetheless, things do possess properties, "for the very data that, taken concretely, are understood as pertaining to a single thing may also be taken abstractly and so may lead to a grasp of experiential conjugates, explanatory conjugates, and probabilities. Because the data are the same, there results an obvious relation between the insights and between



Thus the set of economic conjugate forms of human industry is a higher system because it systematizes what would otherwise remain a coincidental manifold of conjugate acts taken within the context of the verified and explained terms of the market conjugate form. Similarly, the set of ecological conjugate forms of human industry is an even higher system because it systematizes what would otherwise remain a coincidental manifold of conjugate acts within the context of the verified and explained terms of the economic and market conjugate forms

Each successively higher set of conjugate forms reveals an aspect of the higher system which Bernard Lonergan calls the 'integrator.' The integrator resides in these successive levels of interrelated conjugate forms.<sup>34</sup> It is simply the aspect of any given set of conjugate forms as higher system.<sup>35</sup> The higher system as integrator therefore involves the simultaneous interlocking of conjugate forms.<sup>36</sup>

#### 4.4.2 Operations

While the notion of an integrator accounts for the interlocking of sets of conjugate forms of a given level of integration or viewpoint, it does not account for how that stage is arrived at, or how we move beyond it. Integrators pertain

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consequent concepts. This relation is expressed by saying that the [experiential and explanatory] conjugates are properties of the thing " Ibid. , 271. For this reason, insights which lead to understanding of the concrete-intelligible-unity-whole component of proportionate being are central, while those insights which grasp the abstract-experiential-explanatory-probable components of proportionate being bring out the features of intelligible mutual relations. Central potency and act, and conjugate potency and act are simply corollaries of the differences between central and conjugate form Ibid. , 484ff. We are left with an interesting question. Does conjugate form always imply a central form? To put it another way, can a market, economy, or ecology be a thing?

<sup>33</sup> Ibid. , 489

<sup>34</sup> Ibid. , 501

<sup>35</sup> Ibid. , 464. The higher system as integrator corresponds to a set of conjugate forms at the ontological level, but also to a set of laws of the classical type, and to sets of alternative ranges of schemes of recurrence. Ibid. , 490

<sup>36</sup> Ibid. , 490

only to the static aspect of development. But what about the dynamic aspect of development?

"... the higher integration is dynamic when it is not content to systematize the underlying manifold but keeps adding to it and modifying it until, by the principle of correspondence, the existing integration is eliminated and, by the principle of emergence, a new integration is introduced."<sup>37</sup>

Bernard Lonergan argued that Jean Piaget's work on child psychology offered a good example of the operations which are involved in this dynamic aspect of development. According to Lonergan, Piaget's account of the development of the child rests on his thinking fundamentally in terms of groups of operations. For example, sucking of teats, thumbs, etc. is undifferentiated, and through the various undifferentiated operations of sucking various things, the child begins to recognize differences.<sup>38</sup> Similarly, the group of operations of experience, understanding, and judging forms an interrelated whole.<sup>39</sup> So do addition and subtraction, and multiplication and division.<sup>40</sup> Because the operations are related, the terms or the products of the operations will be related. Because the operations are related to one another, the operations can be combined in various ways.<sup>41</sup> The higher system therefore consists in a basic set of operations that can be combined and recombined in various ways<sup>42</sup>

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<sup>37</sup>Ibid , 478

<sup>38</sup>Lonergan, Topics in Education, 169 For his discussion of Piaget's notions of assimilation, accommodation, and development as a movement from generalization to differentiation, see Ibid , 196-203 For Lonergan's discussion on Piaget's group theory and operations involved in development see Lonergan, Philosophical and Theological Papers, 109-110. For a discussion on skill as the development of operations see Lonergan, Method, 27-30

<sup>39</sup>Lonergan, Topics in Education, 170

<sup>40</sup>Ibid , 128 We can see that operations fall into specialized groups which regard particular fields Ibid , 208

<sup>41</sup>"There may be all sorts of terms, all sorts of problems and you will know exactly what the meaning is in each terms because you know exactly what the operations are and what are the relations between them." Lonergan, Philosophical and Theological Papers, 69

<sup>42</sup>Ibid , 69

In trying to understand the operations which lead to development from one level of integration to the next, we must remember that it is not the terms which are important. It is the group of operations that must be considered. In other words, the terms at any given level are simply whatever is presupposed or generated by the operations.<sup>43</sup> So when it comes to understanding the operations involved in the emergence of the higher viewpoints of the market, economic, and ecological conjugate forms, we are interested in 1) the three forms as an interrelated whole, and 2) how the operations across forms and the terms (or products) of the operations will be related.

#### ***4.4.3 Canon of Operations and the Emergence of The Higher Viewpoint***

Understanding the rules by which operations unfold is a first step in understanding how the terms of each form are related, and how the operations are combined across the conjugate forms. Lonergan's examination of insight explains the rules or canons that guide the fruitful unfolding of anticipations of intelligence. He identifies six such rules or canons. Among them is the canon of operations. The canon of operations involves the accumulation of insights. It is a source of higher viewpoints, the higher system as it consists in a basic set of operations.<sup>44</sup> One advances to higher viewpoints by the expansiveness, the constructiveness, the analyses, the constant checking, and the systematizing tendencies of the canon of operations. In virtue of that canon, fresh data are always being brought to light making us aware of the inadequacies of existing hypotheses and theories and thereby providing us with the evidence for their revision, until "in the limit, when minor corrections no longer are capable of

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<sup>43</sup>Lonergan, Topics in Education, 128. Operations form a group when their relations with one another are such that you can go anywhere and come back again. Operations intend objects, therefore they are transitive. Lonergan, Method, 7.

<sup>44</sup>Lonergan, Insight, 93. for more on the canon of operations see Lonergan, Understanding and Being, 83.; Lonergan, Topics in Education, 142.

meeting the issue, to demand the radical transformation [my underline] of concepts and postulates that is named the higher viewpoint "<sup>45</sup> The emergence of a higher viewpoint, then, is a shift in the whole structure of insights, definitions, postulates, deductions and their applications <sup>46</sup> At each stage of development there is a set of rules that govern operations, at each successive level there is the potentiality of grasping by insight a higher set of rules that will govern operations of the next stage.<sup>47</sup> It is by virtue of the canon of operations that the sets of operations across viewpoints, and the terms within viewpoints, can be linked

#### 4.4.4 Operators

So far I have stated that the higher viewpoint consists in a set of intertwined operations, and that the canon of operations guides the emergence of the higher viewpoint. But what does the operating? Of course the general answer is that the operations are the operations of an operator <sup>48</sup> Like integrators, operators are simply an aspect of conjugate form. The set of conjugate forms which constitute the higher system may be understood to be an operator insofar

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<sup>45</sup>Lonergan, Insight, 99. The canon of operations is a principle of cumulative expansion. It is a principle of construction, i.e. the development of science is followed by technological expansion. Third, the canon of operations is a principle of analysis, i.e. we can analyze the objects we can't yet construct, and thereby account for their activity, influences, effects. The canon of operations is a principle of cumulative verification, i.e. laws guide operations and they are verified as true insofar as the operations are repeatedly found successful. The canon of operations provides a test of the impartiality and accuracy of observations. The canon of operations is a principle of systematization, it is constant recall from the abstract realm of laws to the complexity of the concrete, and so to the necessity of ever more laws, because operating upon the concrete requires employment of several laws at once. To employ several laws at once, one must know the relations of each law to all others. And to know laws in the network of interrelations of each to all others, is to reach system. Lonergan, Insight, 98.

<sup>46</sup>Ibid., 38.

<sup>47</sup>Ibid., 42. For a discussion on analysis of development in terms of higher viewpoints see Ibid 37. There is a simpler explanation of the move from lower to higher integrations in Lonergan, Understanding and Being, 205-206.

<sup>48</sup>For example, Lonergan notes that the operations of seeing, hearing, deliberating, etc., are the operations of the subject as operator. Lonergan, Method, 7.

as it effects the transition from one set of forms, laws, schemes, to another set.<sup>49</sup> In this fashion, the higher system itself is the operator which is "relentless in transforming the integrator."<sup>50</sup> The higher system integrates the underlying manifold in such a way that it calls forth, so to speak, its own replacement by a more specific and effective integrator.<sup>51</sup> Whereas the simultaneous interlocking of the components rests on the higher system as integrator, the successive interlocking of components rests on the higher system as operator.<sup>52</sup>

An operator is conditioned by instability in the underlying manifold, according to the principles of emergence and correspondence. It is conditioned by incompleteness in higher integration and it is conditioned by imperfection in correspondence between the instability and the incompleteness.<sup>53</sup>

It is constituted inasmuch as the higher system not merely suffers but provokes the underlying instability; inasmuch as the incompleteness of the higher system consists in a generic, rudimentary, undifferentiated character that can become differentiated, effective, specific; inasmuch as the imperfection of the correspondence is, so to speak, under control and moving towards a limit where the principles of correspondence and emergence result in the replacement of the prior integration by a more developed successor; . . .

The operator is the higher system known by grasping the interrelated set of capacities-to-perform; but it is this interrelated set, not as the integrator of a given stage, but as the source of differences that appear in the next stage."<sup>54</sup>

And so the major characteristic of the operator is that it is the source of differences that appear in the next stage of development; it provokes instability in the lower manifold, and through the principles of emergence and

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<sup>49</sup>Lonergan, Insight, 490.

<sup>50</sup>Ibid. , 501.

<sup>51</sup>Ibid. , 490. In general terms, the operator is the upwardly directed dynamism of proportionate being named finality. Ibid. , 465. Finality is the dynamic aspect of the real. Ibid. , 446. It is directed in so far as potency, form and act form a unity wherein potency is presupposed and complimented by form; form is presupposed and complimented by act. Ibid. , 447.

<sup>52</sup>Ibid. , 465.

<sup>53</sup>Ibid. , 490.

<sup>54</sup>Ibid. , 490-491.

correspondence, there emerges the next stage of development. The higher system as operator is the source of differences that transforms human industry from its market form, to its economic form, to its ecological form.<sup>55</sup>

#### 4.4.5 Summary

An integrator is simply that aspect of any given set of conjugate forms which accounts for their simultaneous interlocking. On the other hand, by the canon of operations, we can say that the higher system is also a source of higher viewpoints insofar as it consists in a basic set of operations which demand radical transformation of concepts and postulates. Here the operators provoke transformation; they are the very sources of differences that appear in successive stages of development.

### 4.5. Forms of the Implicit Operator(s)

I have argued that a) transformation of human industry is the move to successively higher viewpoints, b) successively higher viewpoints are linked through the canon of operations, and c) development of human industry is brought about by the functioning of the operator(s) implicit in each successively higher viewpoint. Because it is through discovery of operators and their operations that concrete instances of development are to be studied, our next goal is to search for clues about the operator(s) responsible for the dynamic aspects of developing human industry.<sup>56</sup> If some of the characteristics of the

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<sup>55</sup>I think Adam Smith speaks implicitly of the operator and finality. "Every individual is continually exerting himself to find the most advantageous employment for whatever capital he can command. It is his own advantage, indeed, and not that of society, which he has in view. But the study of his own advantage naturally, or rather necessarily, leads him to prefer that employment which is most advantageous to the society. He is led by an invisible hand to promote an end which was no part his intention." See Smith, Wealth of Nations, Book V, Chapter Two.

<sup>56</sup>Loneragan, Insight, 488. The relevant heuristic structure for studying the operator is "specify the operator." Ibid., 491.

operator(s) can be identified, then we are closer to understanding the common elements of any form of development of human industry, and thereby closer to understanding the basis for formulating a notion of common economic good that can bridge the gaps between common sense versions of 'sustainable economic development.'

#### 4.5.1 *Correspondence of Operators*

Our concern not with the several states of the dynamic system but with the operators that bring about the successive transformations from each stage to the next implies that, if development on different levels is not to be in conflict, then, there has to be some kind of correspondence between their respective operators.<sup>57</sup> Accordingly, the task is to determine the operator(s) that relate the classifications relevant to one form of human industry to the classifications relevant to the next.<sup>58</sup> Thus if 'market development,' 'economic development,' and 'ecological development' are not to be in conflict, then we must discover the correspondence between the operators operating at each level. That is to say, we must find some correspondence and compatibility between market expansion, economic growth, and ecological epigenesis. The apparent incompatibility between these versions outlined in Chapter One would suggest that such a correspondence is still lacking for the most part. Let us begin to overcome this problem by looking for clues as to the nature of implicit operator(s) within the three common sense versions of 'development.'

#### 4.5.2 *Expansion and the Implicit Operator*

Recall the various aspects of the market version of 'development' (See Table 4-6).

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<sup>57</sup>Ibid. , 555, 597.

<sup>58</sup>Ibid. , 595.

Table 4-6 Market 'development'

| Development | Particular Good | Good of Order | Value     |
|-------------|-----------------|---------------|-----------|
| Market      | Convenience     | Proliferation | Expansion |

As long as there is inconvenience, there is room for 'development' at the level of acquiring stocks in pursuit of the satisfaction of wants. As long as this desire to alleviate inconvenience persists, there is required the concomitant and complimentary need for the 'development' of exchange schemes to satisfy these unsated desires by supplying the additional stocks demanded. There is required an ongoing proliferation of opportunities for exchange, because the existing proliferation obviously does not meet these present desires. And so long as these particular goods and goods of order are understood and judged to be valuable forms of 'development,' as long as they are objects of rational choice, then continuous market expansion is deemed to be the valuable version of 'development' of human industry.

But operation of this expansion version of 'development' creates its own set of profound ironies and problems. The desire for additional convenience requires the consumption of additional stocks.<sup>59</sup> By its own operation, our desiring to satisfy additional convenience creates scarcity in stocks insofar as the things and services which provide the desired convenience are exhausted upon satisfaction of the desire.<sup>60</sup> By its very operation our understanding of the proliferation of exchange as the 'development' of the good of order of human

<sup>59</sup>Consumption is the framework for treating sustainability within the utilitarian framework of the neoclassical method. Krishnan, *A Survey of Ecological Economics*, 109.

<sup>60</sup>Consumption refers to that portion of the total goods and services produced that is currently utilized to satisfy a set of wants. The satisfaction is obtained by the process of altering the stock. The analogy in terms of statistical mechanics is the transition of energy to a higher state of entropy.



industry gives rise to the problem of scarcity. The operation of exchange schemes is supposed to expand opportunities to 'develop' convenience by making more proliferate the opportunities for exchange. But the problem of scarcity cannot be resolved by proliferating market exchange schemes alone; proliferating opportunities for exchange does not necessarily guarantee that we have something more to exchange. Thirdly, by its own operation, our valuing of market expansion can actually lead to market contraction; when scarcity occurs, and exchange opportunities shrivel as a result of trying to meet the ever-increasing demand for further convenience with ever depleting stocks, the market can contract. Ironically, by valuing market expansion, by intelligently bringing it about, and by desiring its fruits, we discover a profound and alarming shortcoming; such a version of 'development' can undermine itself and lead to its own demise for reasons totally out of the realm of the market conjugate form!

These problems indicate an instability in the underlying manifold of conjugate acts, an incompleteness in the higher integration of the market conjugate form to account for the instability, and an imperfection in the correspondence between the underlying manifold of conjugate acts and the conjugate form.<sup>61</sup> That is to say, exchange schemes of recurrence of events are jeopardized by the scarcity of stocks which the market conjugate form cannot account for, hence there is imperfection in the correspondence between the market conjugate form and the underlying manifold of events. By the principle of correspondence, the existing integration tends to become eliminated; the supervening market conjugate form brings less and less explanatory control over the underlying coincidental manifold of events. And by the principle of emergence a new integration tends to be introduced; the ever expanding

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<sup>61</sup>Insight, 490.

coincidental aggregate of conjugate acts surrounding scarcity of stocks demands, as it were, a more comprehensive explanation and form than the market conjugate form can provide. In short, there seems to be an implicit operator functioning at the level of the market conjugate form and it would provoke the emergence of the next form, the economic conjugate form.

#### **4.5.3 *Growth and the Implicit Operator***

Within circulation schemes, the redistributive monetary function involves redistributive exchanges, among which is the transfer of ownership to durable products of past production (i.e. exchange of stocks).<sup>62</sup> If a quantity of money per interval is transferred from the basic supply or surplus supply back to the redistributive function (i.e. subtracted from the basic and surplus supply functions), then there is a net subtraction during the interval, from the quantity of money moving from basic receipts to basic outlay, and from surplus receipts to surplus outlay.<sup>63</sup> Consequently, when this subtraction occurs, there is deceleration of the circuits of capital circulation.<sup>64</sup>

From the perspective of the set of economic conjugate forms, then, exchange of stock is transformed into a redistributive function that has the effect of decelerating circulation of capital through the various monetary functions. With this transformation of the market problem of scarcity to the economic conjugate form, we see a solution to it which is not evident from the perspective of the market conjugate form. From the perspective of the economic conjugate form we realize that by developing convenience we decelerate throughput insofar as the increased acquisition of stocks moves capital into the redistributive

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<sup>62</sup>Loneragan, "Circulation Analysis," 26.

<sup>63</sup>Ibid., 38.

<sup>64</sup>Ibid., 50. This was Adam Smith's point as well, for he says that capital in circulation contributes not one red cent to wealth. See Smith, Wealth of Nations, 385.

function. The deceleration depresses the rate of return on capital thereby diminishing the capacity for 'market development' at the level of stock acquisition; no matter how proliferated the opportunities for exchange become, we simply have less and less capital with which to purchase the additional convenience. Therefore we are presented with an economic solution to the market problem of scarcity of stocks. The solution is to accelerate throughput. This makes available ever increasing amounts of capital for the acquisition of stocks made available through the market expansion. While market expansion is not mistaken, we come to understand that it remains an incomplete explanation if we fail to consider the concomitant and complimentary acceleration of capital turnover frequency.

The higher viewpoint of the economic conjugate form thus stabilizes the underlying coincidental manifold of conjugate acts, it affords a more complete higher integration than the market conjugate form, and it offers greater correspondence between the new conjugate form of the economy and the underlying coincidentally occurring aggregates of conjugate acts or events. There is worked out a more highly differentiated understanding of human industry. By accounting for the relationships between monetary functions, the economic conjugate form can go on to work out highly predictable scenarios, introduce methods of control in order to alleviate stock scarcity, and regulate supply and demand in ways that the market schemes could never do. It can account for scarcity in terms of throughputs through monetary functions, it can control the movement of capital between them and thus ensure, to a higher degree of predictability, that scarcity will be alleviated and improved convenience will be established. The higher integration of the economic conjugate form therefore re-

establishes correspondence between the lower conjugate acts and the explanatory form.

However, this correspondence can also be disturbed. Recall the various aspects of the economic version of 'development' (See Table 4-7).

**Table 4-7 Economic 'development'**

| <b>'Development'</b> | <b>Particular Good</b> | <b>Good of Order</b> | <b>Value</b>  |
|----------------------|------------------------|----------------------|---------------|
| <b>Economic</b>      | <b>Profit</b>          | <b>Acceleration</b>  | <b>Growth</b> |

As long as more profit is desired, there is room for 'development' at the level of the particular good. And as long as this desire to reap additional profits persists, there is required the concomitant and complimentary need for the 'development' of circulation schemes; there is required an ongoing acceleration of circulation because the existing turnover frequency cannot generate any greater rates of return on capital. Therefore, whereas the market requires an increased output *per se*, the economy requires an increased throughput *per se*.<sup>65</sup> And so long as these particular goods and goods of order are understood and judged to be valuable forms of 'development,' as long as they are objects of rational choice, then continuous economic growth is deemed to be the valuable version of 'development' of human industry. With growth comes acceleration and increased profits. The increased profits can go towards acquisition of stocks, and the increased acceleration can offset the deceleration in throughput caused by the extraction of capital into the redistributive functions used in service of acquiring the stocks.

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<sup>65</sup>Daly, "Consumption and Welfare," 462. In Lonergan's terms we may say that the market requires an increased turnover, while the economy requires an accelerated velocity of money.

However, if the economic conjugate form evokes stability and correspondence between itself and lower conjugate acts of the market, it nonetheless provokes development toward an even higher integration. Just as with the market version, the operation of the growth version of 'development' creates its own set of profound ironies and problems. The desire for a better rate of return on capital requires acceleration in throughput.<sup>66</sup> However, since the rate of removal of capital to the redistributive functions must continue to increase if convenience is to be developed (i.e. by accelerating the transfer of ownership to durable products of past production), then the only way to accelerate throughput is to increase economic input to match the outputs drained off, as it were, when capital is converted into stock in the redistributive function. By its very operation, then, our understanding of acceleration of circulation as the 'development' of the good of order of human industry gives rise to a problem that cannot be resolved at the level of intelligibility of circulation schemes alone. The economic conjugate form cannot make systematic an accelerated flow of inputs to match the decelerating effect of the conversion of capital to stock, because the systematic and accelerated provision of inputs or factors of production is excluded as an externality under the economic conjugate form. The economic conjugate form cannot explain the sources, availability or supply of factors of production. For examples, lumber may be needed but the economic conjugate form cannot explain how forests are renewed or regenerated. Oil may also be required, but economic conjugates can tell us little about where the next barrel is to come from and why. Thirdly, by its own operation, our valuing of economic growth can actually lead to economic stagnation; when profits shrink, and circulation decelerates because of an unaccountable reduction or instability

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<sup>66</sup>Or Lonergan's notion of turnover frequency.

in the rate of inputs, the economy can stagnate or go into a slump. Ironically, by valuing economic growth, by intelligently bringing it about, and by desiring its profits, we discover a profound and disturbing shortcoming; such a version of 'development' can also undermine itself and lead to its own demise for reasons totally out of the realm of the market or economic conjugate forms!

These problems indicate an instability in the underlying manifold of conjugate acts, an incompleteness in the higher integration of the economic conjugate form to account for the instability, and an imperfection in the correspondence between the underlying manifold and the conjugate form.<sup>67</sup> That is to say, circulation schemes of recurrence of events are jeopardized by the instability of inputs, the economic form cannot account for this instability, and hence there is imperfection in the correspondence between the economic conjugate form and the underlying manifold of events. By the principle of correspondence, the existing integration tends to become eliminated; the supervening economic conjugate form brings less and less explanatory control over the underlying coincidental manifold of events. And by the principle of emergence a new integration tends to be introduced; the ever expanding coincidental aggregate of conjugate acts surrounding the problem of diminishing inputs demands, as it were, a more comprehensive explanation and form than the economic conjugate form can provide. In short, there seems to be an implicit operator functioning at the level of the economic conjugate form that would provoke the emergence of the ecological conjugate form.

#### ***4.5.4 Epigenesis and the Implicit Operator***

Recall the various aspects of the ecological version of 'development' (See Table 4-8).

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<sup>67</sup>Loneragan, *Insight*, 490

Table 4-8 Ecological 'development'

| Development | Particular Good | Good of Order | Value      |
|-------------|-----------------|---------------|------------|
| Ecological  | Flexibility     | Accommodation | Epigenesis |

From the perspective of the ecological conjugate form, stability of inputs or factors of production is transformed into a question of stability in the components of an ecology. The decelerating effect of capital removal to the redistributive function is transformed into the notion of an ecological perturbation. The economic solution of accelerating rates of input in order to offset the deceleration is transformed into a question of an effected ecology's capacity to accommodate or self-adapt in the face of perturbations. The economic value of growth is replaced with the value of epigenesis; the object of rational choice is not economic growth but gradual diversification and differentiation of economic activity vis. a vis. the diversification and differentiation of the other ranges of schemes that are associated with it within a given flexible circle of ranges of schemes of recurrence.

With this transformation to the ecological conjugate form we see a solution to the problem of input limitations which is not evident from the perspective of the market or economic conjugate forms. The problem is understood now as more than just a matter of output scarcity or input restriction. It is understood to be the problem that the stability of ecological components is at risk due to perturbations of whole flexible circles of ranges of schemes of recurrence; not just those which order human industry. The instability of inputs becomes recognized as nothing more than a symptom of this far-reaching ecological perturbation. We come to recognize that the solution to decelerating

circulation of capital does not depend upon accelerating inputs; it depends upon diversification and differentiation of all types of ecologies. In this way the de-stabilizing effect of market and economic activity can be offset by the complimentary and concomitant development of the epigenetic capacity of human industry ecologies as well as all others that are understood or that can be understood to function in relationship with human industry.<sup>68</sup>

The higher viewpoint of the ecological conjugate form thus stabilizes the underlying coincidental manifold of conjugate acts, it affords a more complete higher integration than the market or economic conjugate form, and it offers greater correspondence between the new conjugate form of the ecology and the underlying coincidentally occurring conjugate acts or events involved with the market and economy. There is worked out an even higher differentiated understanding of human industry. By accounting for the relationships between markets, economies, and non-human goods of order, the ecological conjugate form can a) anticipate ecological perturbations, b) predict the effects of human industry on non-human ecologies and human ones, c) introduce methods to stabilize the components of ecologies and to enhance the capacity of ecologies to self-adapt to perturbations, and d) allow us to establish goods of order which augment diversification and differentiation of ecologies.<sup>69</sup> The higher integration of the ecological conjugate form thereby re-establishes more correspondence between the lower conjugate acts and the explanatory form.

#### ***4.5.5 The Implicit Operators and The Problem of Sustainability***

The emergence of each version of 'development' is in direct response to the shortcomings of the lower version of 'development.' Thus the higher system

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<sup>68</sup>That is to say, all ecologies in the realm of proportionate being.

<sup>69</sup>The intelligible orders that are invented, implemented, adjusted, and improved by men are an exploitation by us of pre-human intelligible orders. Lonergan, *Insight*, 628.



is provoked from the midst of the lower. It immediately reconciles the ironies, contradictions and problems of the lower integration by successive applications of the principles of emergence and correspondence, only to be replaced for similar reasons. The successive transformations lead to a more differentiated and systematic account of the inadequacies raised by the very operations involved in the lower viewpoint.<sup>70</sup>

But what is the source of differences that transforms human industry from its market form, to its economic form, to its ecological form? What provokes instability in the lower system? What relates the classifications relevant to one level of 'development' to the classifications relevant to the next? What is the general and explicit nature of the implicit operator(s) that bring about the successive transformations from each stage to the next?

In the transformation of human industry described above, one can recognize various laws and consequent schemes of recurrence, and compare the real development at lower and higher stages and thereby move to the discovery of the operators that explanitorily relate the laws effective at one level to the laws effective at another.<sup>71</sup> In other words, there seems to be a correspondence between operators. Descriptions and explanations of the problems of stock scarcity, capital circulation deceleration, and the maintenance of ecological epigenetic diversity are certainly formulated using very different terms, but there appears to be a connection between them nonetheless when they are considered as involved in a group of operations having a set of interconnected operators. On

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<sup>70</sup> As Patrick Byrne has noted, "if the later operators in that series can also be explanatorily characterized as increasingly differentiated higher integrations, then one has the explanatory reformulation of the core of descriptive discernment " Byrne, "Teleology, Modern Science and Verification," 23.

<sup>71</sup> For example, "in the sensitive flow, the psychologist can discern various laws and can work out consequent schemes of recurrence; he can compare such a flow at earlier and later stages of psychic development and move to the discovery of the operators that explanitorily relate the laws effective at one time to the laws effective at another." Lonergan, Insight, 632.

the one hand each form of human industry has its own version of 'development.' On the other hand, whether valuing market expansion, economic growth, or ecological epigenesis, it appears that that version of 'development' is unsustainable from within the context of its own explanatory conjugates. At the market level the problem of capital scarcity raises the question Is output sustainable? The paradox is that the question remains unanswerable in terms of the market conjugate form, even though it is precisely through operations at this level that such a question is raised. Without an adequate answer, the sustainability of market expansion is thrown into question. In this way the market form provokes the emergence of the next higher viewpoint. At the economic level the problem of capital circulation deceleration raises the question Is input sustainable? The paradox here is that the question remains unanswerable in terms of the economic conjugate form even though it is precisely through operations at this level that such a question is raised. Without an adequate answer, the sustainability of economic growth is thrown into question. In this way the economic form also provokes the emergence of the next higher viewpoint.

We can see the trend. In general, the question becomes this; Is a given version of 'development' of human industry sustainable? The move to the higher viewpoint, the transformation which is behind the real development, seems to be provoked by the general problem of sustainability. Each successive level, each successive version of 'development,' is rendered unstable and provocative of the next because it cannot adequately account for or give rise to a coherent form of sustainability. It seems that every time we try and tackle the question of real development in common sense terms, no matter what common sense version we

understand it to be, we are confronted with the problem that that version of 'development' is not sustainable.

This paradox is our first clue as to the nature of the operator(s) involved in the real development of human industry. The lack of sustainability in a lower version of 'development' appears to call forth the next higher integration. The problem of sustainability somehow provokes the move to the higher version of 'development.' This provocative role suggests that the problem of sustainability is in the very least linked to the implicit operator(s) at each level of integration. It would seem that the general problem of sustainability is the source of differences that transforms human industry from its market form, to its economic form, to its ecological form. It would seem that a lack of sustainability in any given common sense version of 'development' is what provokes instability in that lower system. It would seem that the general notion of sustainability is what relates the classifications relevant to one level of 'development' to the classifications relevant to the next. In short, it would seem that correspondence between the implicit operators of each level of 'development' finds its definition in the notion of sustainability.

Moreover, notice that the question of sustainability emerges in terms of different dominant aspects of the good, depending upon the level of the integration. The market form asks if output of stock is sustainable. Since stock is in service of want satisfaction, the concern over sustainability at the market level occurs primarily in terms of the particular good. The economic form asks if acceleration of circulation is sustainable. Since circulation is the means by which profits are systematically achieved, the concern over sustainability at the economic level occurs primarily in terms of the good of order. The ecological form asks if epigenesis or diversification and differentiation are worth sustaining.

Since epigenesis makes ecological accommodation and stability objects of rational choice, the concern over sustainability at the ecological level occurs in terms of value. As we shall see in our next chapter, this shift has much to do with the sustained development not only of human industry, but also with sustained development of the human economic actor.

#### 4.5.6 *Summary*

This has been a long and complicated section. Accordingly, let us carefully retrace our steps. Our concern has not been with the several states of dynamic human industry but rather with the operator(s) that bring about the successive transformations from each stage to the next. Common sense versions of 'development' on the different levels of human industry are not essentially in conflict because there is correspondence between their respective operators insofar as they all implicitly contain some version of the notion of sustainability. Expansion has an implicit operator insofar as the problem of stock scarcity is the relevant classification of the notion of sustainability that is related to the next level of development. Growth has an implicit operator insofar as the problem of capital circulation deceleration is the relevant classification of the notion of sustainability that is related to the next level of development. Epigenesis has an implicit operator insofar as the problems of diversification and differentiation are the relevant classifications of the notion of sustainability that will be related to some next undetermined level of development. Therefore the notion of sustainability seems to relate the relevant classifications of one level of 'development' to the relevant classifications of the next.<sup>72</sup>

It may seem contrary to common sense that the notion of sustainability is associated with the operator(s), and not the integrator(s). This is especially the

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<sup>72</sup>We shall see in the next chapter that the next level of development involves discovery of the significance of the transformation of the economic actor.

case since so much of the debate on sustainable 'development' regards sustainability as some idea of *stasis*; whether in terms of steady-state economics, or in terms of sustaining a pristine environment, or whatever. This apparent contradiction strikes right at the heart of the inadequacy of common sense to define real development.

Ironically, it is the common sense notion of 'development' which is more related to the integrator than the operator! Any reigning common sense version of 'economic development' is happy to continue along with the same old thing, to avoid real transformation at all costs. If market expansion could go on *ad infinitum*, it would. If we could satisfy an endless stream of desires in an hedonistic world of earthly delights, I fear we would. If economic growth could be infinite, we would become wealthy beyond our wildest dreams; our capacity to acquire would eclipse our desires and we could have more than we would know what to do with. But alas! The Garden of Eden is no longer ours, and utopia is but an illusion. Because these common sense versions of 'development' are unsustainable, we are rudely awakened and thrust into a search for the next, and the next, and the next and . . . We discover that what passed for real development was only an attempt to remain complacently at some level of integration. What passed for real development was a cultish obsession with the illusion of 'progress.' By desiring inexorable 'development,' by devising the means for achieving it, by the very act of valuing it, we are confronted at every step with limitation and frustration. And if it weren't for the 'problem' of sustainability, we never would never get on to the next version of economic 'development,' nor discover the significance of the getting on.

Ironically, perhaps, the source of real development of human industry comes from our very incapacity to move to higher viewpoints without being confronted by the inadequacies of the reigning common sense version of the day

I am not ready to conclude that sustainability is the operator behind each successive transformation in the real development of human industry. However, as we shall see in our next and final section of this chapter, there certainly seems to be a unifying principle behind all of these versions that plays an heuristic role in informing the operator(s)

#### 4.6. The Heuristic Concept of Sustention

It is clear that 'sustainable development' can have different meanings depending upon the common sense version of 'development' under which it is being considered. The words are the same but they speak different languages. How is one to explain the process whereby common questions, formulated in common terms, come to have such different meanings?

##### 4.6.1 *The Notion*

Intending is defined as a notion when it intelligently and reasonably heads toward knowing.<sup>73</sup> A notion exists when the object of a particular intention is matched with that intending.<sup>74</sup> Bernard Lonergan uses the example of hunger to demonstrate this point. Hunger is oriented toward food and eating, but a notion of hunger arises only in so far as the orientation of hunger is understood. In our discussion, then, the market thrust to provide abundance, the economic thrust to ensure acceleration, and the ecological thrust to protect epigenesis are thrusts oriented toward sustainability. However, the notion of sustainability arises only insofar as any one of these orientations is understood to have sustainability as its

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<sup>73</sup>Lonergan, *Insight*, 665

<sup>74</sup>*Ibid* , 378

object. Insofar as the market thrust to provide abundance, and/or the economic thrust to ensure acceleration, and/or the ecological thrust to protect epigenesis are understood and affirmed to be oriented toward sustainability, we may say that sustainability is a notion.

#### 4.6.2 *The Heuristic Notion*

A heuristic is a principle of discovery.<sup>75</sup> A heuristic notion is the notion of an unknown content, and it is determined by anticipating the type of act through which the unknown would become known. Because it is behind common names of common language, it begins in the realm of common sense.<sup>76</sup>

The market conjugate form anticipates that abundant provision of stocks is the act through which sustainable development would become known. The economy conjugate form anticipates that ensuring capital acceleration is the act through which sustainable development would become known. The ecological conjugate form anticipates that protecting epigenesis is the act through which sustainable development would become known. Each involves intelligently and reasonably intending the unknown real sustainable economic development. And so long as we continue to intend intelligently and reasonably towards knowing sustainable development without knowing it or achieving it, it remains a content-to-be-known. Therefore we may say that sustainability is not only a notion, but a heuristic notion.

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<sup>75</sup>Lonergan, *Understanding and Being*, 64.

<sup>76</sup>The language of common sense is ordinary description of the particular and the concrete. Lonergan, *Insight*, 416-17.

#### 4.6.3 *The Heuristic Structure*

A heuristic structure is an ordered set of heuristic notions.<sup>77</sup> It results from anticipations and it heads toward the determination of a theory.<sup>78</sup> As such, it provides a field in which a particular strain of insights can occur.<sup>79</sup> In other words, a heuristic structure is the structure within which operations, like those alluded to above, accumulate towards the attainment of goals.<sup>80</sup> It is necessarily confined to determining generalities that are common to all solutions.<sup>81</sup>

Lonergan uses the example of fire.

Finally, since the basic nest of terms and relations is a dynamic structure, there are various ways in which models of change can be worked out. Fire, for instance, has been conceived as one of the four elements, as due to phlogiston, and as a process of oxidization. But while the answers have little in common, they are answers to the same question, What will you know when you understand the data on fire? More generally, the nature of any *x* is what one will know when the data on *x* are understood. So by turning to the heuristic notions behind common names, one finds the unifying principle of the successive meanings attributed to the name.<sup>82</sup>

While the answers concerning sustainability offered by the market, economic, and ecological conjugate forms have little in common, they are all answers to the same question, What will you know when you understand the data on real sustainable development? By examining the successive meanings given to the heuristic notions of sustainability, we begin to discover the unifying principle behind the successive meanings attributed to the name 'sustainability'.

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<sup>77</sup>Ibid , 416-17

<sup>78</sup>Lonergan, Collection, 137 , Lonergan, Understanding and Being, 72, n 14. Hypothetical insight is the object of an heuristic structure. Lonergan, Ibid , 214. Heuristic structures constitute an *a priori* that settle not only the activity of knowing but the content of the known. See Lonergan Insight, 128. For comments on the heuristic structure of knowing see Lonergan Insight, 626.

<sup>79</sup>Lonergan, Understanding and Being, 260-61

<sup>80</sup>Lonergan, Method, 287. There are classical, statistical, genetic, and dialectical heuristic structures. It appears that Lonergan is saying that heuristic structure pertains to method, where *method is the set of articulated directives*. He defines method as "a normative pattern of recurrent and related operations yielding cumulative and progressive results." Ibid , 4.

<sup>81</sup>Lonergan, Insight, 745

<sup>82</sup>Lonergan, Method, 287



In another place, Lonergan reiterates his example of fire .

We have three accounts of fire. How can the those three accounts be of the same thing? . . Where do we find the common point between the three successive theories? . . What is that fire that is the same? It is the fire that is the object of the heuristic structure.<sup>83</sup>

Similarly, we have three accounts of sustainability. The sustainability that is the same is the sustainability that is the object of the successively ordered set of heuristic notions. Like the word 'fire,' 'sustainability' means very different things, and like the word 'fire,' the word 'sustainability' points to the underlying object of the whole heuristic structure.

I should be wise to pick a different name for the underlying principle itself, in order to a) distinguish between the principle underlying the whole heuristic structure and the heuristic notion intended when any of the three common sense versions of 'development' employs the word 'sustainability,' and b) distinguish between the unifying principle and common sense undifferentiated notions of the word 'sustainable.' Therefore I shall henceforth say that the word 'sustention' means the same object of the heuristic structure and each common sense version of 'sustainability.'

#### ***4.6.4 The Heuristic Concept***

Notions are what is intended in concepts.<sup>84</sup> A concept gives direction to our questions, it lends a focus to our inquiry that leads us systematically in one direction over another.

Just as imagination is the playground of our desires and our fears, so conception is the playground of our intelligence. Just as imagination can create objects never seen or heard or felt, so too conception can create objects that cannot even be imagined.

Note, then, two properties of concepts. In the first place, they are constituted by the mere activity of supposing, thinking, considering, defining.

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<sup>83</sup>Lonergan, *Understanding and Being*, 198

<sup>84</sup>Lonergan, *Method*, 12.

They may or may not be more than that. But if they are more, then they are not merely concepts. . . . In the second place, concepts do not occur at random; they emerge in thinking, supposing, considering, defining, formulating; and that many-named activity occurs, not at random, but in conjunction with an act of insight.<sup>85</sup>

Furthermore, heuristic concepts differ from explanatory concepts. An explanatory concept is defined as the expression of the content of understanding. But though explanations can differ, the object to be explained can be conceived uniformly. The heuristic concept forms the unifying principle in a series of successive explanations.<sup>86</sup> And since the unifying principle in the series of successive explanations of sustainability has been named 'sustention,' we may now say that sustention is an heuristic concept.

#### **4.6.5 Summary**

Behind the various meanings given to sustainability, there is an underlying heuristic notion. Because of the successively different explanations of sustainability, there is formed a heuristic structure. The object of that structure, the unifying principle in the series of explanations, is the heuristic concept I have called sustention.

### **4.7. Conclusion**

The aim of this chapter has been to suggest that real sustainable economic development is by definition a relentless and indeterminate transformation of human industry into successively higher, more fully differentiated forms. In the first part I examined the common sense versions of 'economic development'. I discovered that the conjugate form or combination of conjugate forms understood and affirmed to be the form of human industry determines our understanding of the meaning of 'development'. In the second section I noted

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<sup>85</sup>Loneragan, *Insight*, 32-33.

<sup>86</sup>*Ibid.*, 759.

that real economic development involves the radical transformation from the market, to the economic, to the ecological conjugate forms. At the cognitional level this is the move to a higher-order understanding. At the ontological level this is the emergence of new conjugate form. At the level of the good it is a shift from the particular good to value. In the third part I defined development of human industry as the flexible linked sequence of dynamic and increasingly differentiated higher integrations we have named 'market conjugate form,' 'economic conjugate form,' and 'ecological conjugate form.' The fourth part of the study focused on operators. I concluded that the radical transformation of concepts and postulates named the higher viewpoint, is affected by the operations of operators, and that it is through discovery of these operators and their operations that concrete instances of real economic development could be studied. This was not to imply that operators are the predicates of markets, economies or ecologies *per se*, for as we shall see in the next chapter, operators are predicates of people and their acts of meaning; the analogous discussion here simply paves the way toward this more important discussion. The second-last section noted a correspondence, and hence a compatibility, between common sense versions of 'development' and their respective operators insofar as the implicit operators seem to be associated with some version of the notion of sustainability. My concern here was with the operators that bring about the successive transformations from one level to the next. In the final section I observed that the notion of sustainability is linked to an underlying principle that renders the various common sense versions of sustainable 'development' quite compatible after all. Behind the various meaning given to sustainability, there is an underlying heuristic notion. Because of the successively different explanations of sustainability, there is formed a heuristic structure. The object of that structure,

the unifying principle in the series of explanations, is the heuristic concept I have called sustention.

Let me conclude this chapter. We may say with some confidence that the heuristic notion of sustainability, and the unifying heuristic concept of sustention are vital aspects of the implicit operator(s) which brings about real economic development. Once we grasped that sustention is a heuristic concept common to all versions of the notion of sustainability, we come to understand that the various common sense versions of 'sustainable economic development' are compatible, indeed inextricable, insofar as they function in succession to reveal that unifying principle behind development of all human industry.

Until now, we have lacked an explanatory framework concerning the more general notion of the meaning of 'economic development;' one that would render some intelligible correspondence between the many often conflicting versions of 'development' without automatically introducing the problem of sustainability. Now we may say that it is not 'development' *per se*, or its various typical versions that are the central issues, but the sustention of transformation that is the driving force behind the dynamic aspect of real development.<sup>87</sup> If we are to claim that any kind of development is sustainable, then we are in essence claiming that that kind of development is capable of relentlessly transforming the human economy to successively higher, more fully differentiated viewpoints. While this inexorable drive may continue to be our hope, it remains to be seen if it will ever be our permanent achievement.

In Chapter Five we explore the link between our hopes and our achievements. We shall inquire as to how transformation of human industry

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<sup>87</sup>As Dixon and Fallon note, sustainable development does not require that any particular activity continue indefinitely. Instead, sustainable development will involve structural changes and the replacement of old activities with new ones. Dixon and Fallon, "The Concept of Sustainability, 73-84.

involves a concomitant and complimentary transformation of the human actor. As Denis Goulet put it, "although all men must surely have enough goods in order to be more human, they say, development itself is simply a means to human ascent."<sup>88</sup>

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<sup>88</sup>This perspective, at times called the 'French school,' is linked to such names as François Perroux, social planner Louis Lebreton, theorist Jacques Austruy. See Goulet, The Cruel Choice, xiv

## CHAPTER FIVE

### CONVERSION

In the last chapter I talked about the object which is transformed. In this chapter I talk about the subject doing the transforming. Whereas a look at the object can explain the differentiated conjugate forms of human industry, only a look at the subject can reveal the significance of our differentiating.

The aim of this chapter is to demonstrate that truly sustainable economic development requires a transformation of the subject, the human person, which is beyond the capacity of the subject to effect because of the problem of liberation. In the first part I shall examine the transformation of the subject. In the second part I shall discuss how a lack of intellectual conversion leads to an incapacity to formulate a coherent theory of sustainable economic development. The third part looks at the role of moral conversion in economic development. The fourth section shows how a lack of intellectual and moral conversion can impose boundaries between communities and thereby limit the cooperation required for sustained development of human industry. The next to last section explores how the problem of human liberation confronts us with a radical incapacity for sustained economic development. It is upon discovery of this incapacity that we grasp the "need to go beyond the hitherto considered procedures of [our] endeavor to go beyond."<sup>1</sup> The final section discusses how the

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<sup>1</sup>Loneragan, Insight, 659.

theological notion of redemption presents us with an intelligible solution to this problem.

### 5.1. The Meaning of Conversion

In the preceding chapters I have said that the operations of our own desiring, understanding, and valuing have given rise to a sequence of higher conjugate forms of human industry. This transformation is effected through our intentional acts which anticipate ends, choose means, secure collaborators, and direct operations.<sup>2</sup> Since transformation of human industry so intimately involves our intending, anticipating, valuing, cooperating and directing, the human subject also becomes one of the objects of inquiry when we ask about the development of human industry! The move to successively higher viewpoints on the object, the reformulation of the concepts expressing a fuller understanding of human industry, and the transformation of the meaning of development all have implications with regard to the subject. Because the subject is one of the objects, the subject can accept the transformation in the conception of the objects only if the subject effects a transformation in her or his own living. Because the subject is one of the objects, there can occur transformation of the object only on condition that there occurs a radical transformation, a real development in the subject.<sup>3</sup> We may define this transformation of the subject as conversion.<sup>4</sup> Thus development of human industry involves a concomitant conversion of the subject.

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<sup>2</sup>Loneragan, Collection, 234

<sup>3</sup>Loneragan, Topics in Education, 96 Here Lonergan speaks specifically about the case of philosophy as opposed to science. Ibid., 96 "Finally, besides the transformation of nature, there is man's transformation of man himself" Lonergan, Collection, 234-235

<sup>4</sup>Normally conversion is a prolonged process, it is a change of course or direction. Lonergan, Method, 130-131 Unless the conversion of the subject compliments the transformation in the object, there will be a conflict between object and subject. The new theory of the transformed object will be rejected as untrue by the unconverted subject. Lonergan believed that this problem is the root cause of philosophical differences. The subject is unprepared to be converted, to

## 5.2. The Role of Intellectual Conversion<sup>5</sup>

As mentioned in the previous chapter, operations and operators are not the predicates of markets, economies, or ecologies, but of people and their acts of meaning. Accordingly, there is an operator corresponding with each of the levels of the cognitional operations of experiencing, understanding, reflecting and judging. On the sensitive or purely experiential level, the operator is associated with feelings of awe, fascination, the uncanny. It is openness to the world, to adventure, to greatness, to goodness, to majesty.<sup>6</sup> On the intellectual level, the operator is the detached disinterested desire to know; it is wonder. It holds our sensitive integrations open to transforming change.<sup>7</sup> On the level of reflection and judgment, the operator is rationality or reasonableness.<sup>8</sup>

It's one's reasonableness that puts the different types of questions that move one to reflective understanding and judgment. And they not merely move, not merely are 'elevators' moving from one level to the next, but they also control the activities that occur, set their standards. You can't judge without sufficient evidence, and if you have sufficient evidence you have to judge. The 'can't' and 'have to' are not in terms of physical necessity, physical force, but in terms of the necessity imposed on one by one's own rationality.<sup>9</sup>

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transform himself in accord with the corresponding transformation of the human object that has resulted from development of the human science. See Lonergan, Topics in Education, 161

<sup>5</sup>The editors argue that intellectual conversion is either a part of or identical with philosophical conversion. See Lonergan, Collection, 148, n 10, 287

<sup>6</sup>Lonergan, Topics in Education, 214

<sup>7</sup>*Ibid*, 214, Lonergan, Insight, 555, 570. Lonergan speaks of the cognitional operations in such a way that it may be concluded, in light of the fact he calls the pure desire the intellectual operator, that operations stand to operators as effect to cause. See Lonergan, Collection, 217-18,

<sup>8</sup>"I was talking recently in Los Angeles on the topic of objectivity. People wanted to know how you can know, how you can be certain, if you could not account for that, they thought, you were not going to know at all. They were rationally conscious, and very intensely so. The 'elevator' was working very strongly." Lonergan, Philosophical and Theological Papers, 224, n 10. In that note it says, "Lonergan refers to the blackboard diagram that he has been using for this part of the lecture. The 'elevator' (what Lonergan elsewhere refers to as the 'operator') here is [sic] the questions for reflection that moved one from the level of understanding to that of reflection and judgment."

<sup>9</sup>*Ibid*, 238



It is through these cognitional operations that the human subject becomes an operator involved in the development of human industry (see summary in Table 5-1).<sup>10</sup>

Table 5-1 The cognitional operators and operations

| Operation | Experience | Understanding  | Reflecting, Judging |
|-----------|------------|----------------|---------------------|
| Operator  | awe        | desire to know | reasonableness      |

Bernard Lonergan has argued that the differentiation of operations and objects requires differentiation in the consciousness of the operating subject.<sup>11</sup> It will no doubt be clear to the reader by now that our differentiation of conjugate forms of human industry, our division of the good of human industry, and our division of 'development' into its three aspects has been based on the premise that there is indeed a corresponding differentiation in the consciousness of the operating subject. To the extent that the subject grasps that this is what knowing entails, there has been what Lonergan refers to as intellectual conversion. Intellectual conversion, then, is coming to know that knowing is experiencing, understanding, reflecting, and judging.<sup>12</sup>

However, there is a myth concerning reality, objectivity, and human knowledge, and it fails to acknowledge this concomitant and complimentary differentiation in the consciousness of the operating subject. The myth holds that what is known is considered to be 'already out there now real'.

'Already' refers to the orientation and dynamic anticipation of biological consciousness; such consciousness does not create but finds its environment; it finds it already constituted, already offering opportunities, already issuing

<sup>10</sup>Lonergan, *Method*, 28.

<sup>11</sup>*Ibid.*, 139.

<sup>12</sup>*Ibid.*, 238-239.

challenges. 'Out' refers to the extroversion of a consciousness that is aware, not of its own ground, but of objects distinct from itself. 'There' and 'now' indicate the spatial and temporal determinations of extroverted consciousness. 'Real,' finally, is a subdivision within the field of the 'already out there now': part of that is mere appearance, but part is real; and its reality consists in its relevance to biological success or failure, pleasure or pain.<sup>13</sup>

The source of the myth is a failure to distinguish between the world of immediacy and the world mediated by meaning.

The myth is that knowing is like looking, that objectivity is seeing what is there to be seen and not seeing what is not there, and that the real is what is out there now to be looked at.

The consequences of the myth are various. The naive realist knows the world mediated by meaning but thinks he knows it by looking. The empiricist restricts objective knowledge to sense experience; for him, understanding and conceiving, judging and believing are merely subjective activities. The idealist insists that human knowing always includes understanding as well as sense; but he retains the empiricist's notion of reality, and so he thinks of the world mediated by meaning as not real but ideal.<sup>14</sup>

The consequences of the myth seem evident in many approaches to sustainable economic development. For instance, is our aesthetic obsession with the beauty of nature, our desire for pristine landscapes, our drive to set aside untouched wilderness sometimes grounded in a naive realism that would have the subject behold the environment as something 'out there?' Likewise, does the debate over the meaning of sustainable development seem like a cacophony of opinions only because of empiricism; do we restrict objective knowledge of human industry to sense experience, and then declare that differences of opinion are inevitable because understanding and conceiving, judging and believing are merely subjective activities to be perfumed in any number of equally valid ways?<sup>15</sup> Does the idealist position accounts for many of the unrealistic dreams of

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<sup>13</sup>Lonergan, Insight, 276-277.

<sup>14</sup>Lonergan, Method, 238-239.

<sup>15</sup>Alasdair MacIntyre explores this problem through the notion of emotivism. See Alasdair MacIntyre, After Virtue: A Study of Moral Theory 2d ed. , (Notre Dame, Indiana: University of

those who would reject humanity as a stranger in a strange land, as an interloper who has no business disrupting an otherwise perfect set-up? By thinking that the world mediated by meaning is not real but ideal, do we create for ourselves any number of surreal Arcadian landscapes, none of which includes the subject as anything but a detached observer?

Any version of mythical knowing demonstrates a lack of intellectual conversion on the part of the subject. The consequence is that the operating subject understands himself or herself as radically detached from the object; the intentional operations of the subject have no direct correspondence with the object. The differentiation of the object becomes arbitrary because it has no correspondence with the differentiation of the cognitional operations of the subject. Transformation becomes a meaningless word because forms cannot be related in any coherent fashion. The correspondence between operators and operations at each level of integration are divorced from one another as well as the subject who is knowing them. As a result, there can be no over-arching heuristic structure to the various forms. It follows that the discovery of any underlying heuristic concept or principle becomes impossible. And without the possibility of a unifying heuristic concept, the meaning of transformation is lost. Ultimately, without intellectual conversion, the subject is hard-pressed to bring any substantive meaning to the notion of development. Without intellectual conversion we are compelled to rely on common sense versions of development, for our theories begin to fall far short of coherent explanation.

These stumbling blocks to development of human industry can be removed only if we declare the world mediated by meaning to be the real world.

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Notre Dame Press, 1984). See especially Chapter Two, "The Nature of Moral Disagreement Today and the Claims of Emotivism."

The world of immediacy is the sum of what is seen, heard, touched, tasted, smelt, felt. It conforms well enough to the myth's view of reality, objectivity, knowledge. But it is but a tiny fragment of the world mediated by meaning. For the world mediated by meaning is a world known not by the sense experience of an individual but by the external and internal experience of a cultural community, and by the continuously checked and rechecked judgments of the community. Knowing, accordingly, is not just seeing; it is experiencing, understanding, judging, and believing. The criteria of objectivity are not just the criteria of ocular vision; they are the compound criteria of experiencing, of understanding, of judging, and of believing. The reality known is not just looked at; it is given in experience, organized and extrapolated by understanding, posited by judgment and belief.<sup>16</sup>

Intellectual conversion is by necessity an on-going dialectic process of developing correct positions and reversing incorrect counter-positions.<sup>17</sup> As Lonergan notes, the development of positions involves a conversion on the part of the subject who judges.<sup>18</sup> By the dialectic principle of transformation, positions are developed and counter positions are reversed.<sup>19</sup> That is to say, the dialectic principle of transformation invites one to conversion.<sup>20</sup> This is where the significance of the heuristic concept of sustentation comes to light. As long as the form of 'development' we implement remains inadequate, a tension is created between the underlying principle of sustentation and the inadequate formulation of the notion of sustainability. The tension is only resolved by the further development of positions and the reversal of counter-positions brought about by the principle of transformation. The unifying concept of sustentation seems to

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<sup>16</sup>Lonergan, Method, 238.

<sup>17</sup>Ibid., 249. Lonergan, Philosophical and Theological Papers, 37.

<sup>18</sup>Ibid., 40.

<sup>19</sup>Lonergan, Insight, 416. The idea that transformation involves intellectual conversion finds implicit representation in some literature concerning the role of entrepreneurship in economic development. For example, Israel Kirzner says that the economics of growth is the economics of entrepreneurial discovery; the more general discovery processes is what constitutes economic growth. See Israel Kirzner, "The Entrepreneurial Process," in The Environment for Entrepreneurship, ed. Calvin A. Kent (Toronto: Lexington Books- D.C. Heath and Company, 1984), 49-50.

<sup>20</sup>Lonergan, Method, 161, 168.

maintain a dialectic tension. It makes possible this conversion insofar as the resolution demanded by the principle of transformation is not met until the conversion of the subject permits the introduction of a more comprehensive position and the reversal of existing counter-positions.<sup>21</sup> In this way, the transformation of human industry is effected to the extent that intellectual conversion of the subject takes place.

In summary, we may say that, through the cognitional operations, the human subject becomes an operator involved in the development of human industry. The differentiation of operations and objects requires a differentiation in the consciousness of the operating subject. However, the various myths concerning reality, objectivity, and human knowledge fail to acknowledge this concomitant and complimentary differentiation in the consciousness of the operating subject. This failure is a lack of intellectual conversion and it leads to an incapacity to formulate a coherent and differentiated theory of sustainable development. However, through the dialectic principle of transformation and the pivotal role played by the heuristic concept of sustention, such conversion can take place. Consequently, intellectual conversion increases the likelihood of formulating a more coherent and differentiated theory of sustainable development of human industry.

### 5.3. Moral Conversion

So far I have discussed the value of human industry in terms of the object of our inquiry. I have noted that the values commonly associated with the market, economic, and ecological forms are, respectively, welfare, wealth, and

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<sup>21</sup> Perhaps our concept of sustention is the specific economic form of the dialectic principle of transformation, or perhaps they are both further aspects of the operator (s) which brings about real economic development.

health. The present section looks at these values from the perspective of the subject. I shall argue that it is the originating value of the subject which determines the terminal value of human industry as the object, and that the nature of the originating value depends upon the moral conversion of the subject. I shall demonstrate that the shift from satisfactions to value is not a result of economic transformation, but a source of such transformation. Only by becoming a rationally self-conscious subject can the good of human industry and the good of its development develop. That is to say, real development of human industry depends upon moral development of the subject. To the extent that this moral development happens, we may say that the subject has undergone moral conversion.

### 5.3.1 *Putting Judgments of Value into Effect*

It is one thing to make judgments of value, to select from a myriad of choices, and to decide what direction we shall take and what plans we shall put into effect. But it is another thing to be radically conscious of doing so, and to appreciate the full ramifications. As we shall see, this process of becoming rationally self-conscious is at the heart of moral conversion, and insofar as moral conversion is determined to be the source of value, we may say that becoming rationally self-conscious is inextricably related to the development of true value in human industry. Let us begin by differentiating some basic aspects of our choosing and doing.

Our apprehension of values occurs in intentional responses, in feelings.<sup>22</sup> Apprehensions of value are intermediate between judgments of fact and judgments of value. They are present in feelings, not as non-intentional states, trends, or urges but as intentional responses to the ontic value of persons, or the

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<sup>22</sup>Lonergan, *Method*, 66

qualitative value of beauty, or as intentional responses to understanding, or truth, or of noble deeds, of virtuous acts, or great achievements.<sup>23</sup>

I have already spoken at length about value as that aspect of the proportionate good at the level of rational choice.<sup>24</sup> This actual good of value presupposes the formal good of order, and the formal good of order presupposes the potential good of a manifold of experiences to be ordered.<sup>25</sup> A good of order is a value first because that is the order that happens to exist at a given time. But there is value in the sense of improving the actual order, or value in the sense of avoiding what destroys the actually functioning order.<sup>26</sup> Both these actions require a judgment of value. Such judgments of value differ in content but not structure from judgments of fact.<sup>27</sup> They can be simple or comparative; that is to say, they can affirm or deny that some *x* is truly or only apparently good, or they can compare distinct instances of the good to affirm or deny that one is a better

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<sup>23</sup>Ibid , 37-38

<sup>24</sup>Loneragan, Insight, 647 In his earlier work, Bernard Lonergan classified value as a third level of the good. See for example Lonergan, Understanding and Being, 226 However, it must be noted that Lonergan later revised his analysis and considered a fourth level of consciousness that would account for the type of consciousness that deliberates, makes judgments of value, decides, and acts responsibly and freely See Lonergan, Method, 106 This fourth level of so-called intentional consciousness is consciousness brought to a fulfillment, as having undergone a conversion Lonergan, Method, 107 Until this point in our study it has served us well to simplify our study of the object of human economic activity by sticking to the earlier differentiation of the proportionate good into the three levels of the particular good, the good of order, and value However, since we are now interested in speaking about the subject as decision-maker, it is necessary to introduce the fourth level This will allow us to bring into the discussion the issues of deliberation, decision, freedom and responsibility, and the effects of conversion It is beyond the focus of our present inquiry to study the reasons for Lonergan's original conflation and latter differentiation The interested reader may, however, wish to consult the following articles, Patrick Byrne, "Consciousness Levels, Sublations, and the Subject as Subject," Method Journal of Lonergan Studies 13 (1995) 131-150 , Thomas J McPartland, "Consciousness and Normative Subjectivity Lonergan's Unique Foundational Enterprise," Method Journal of Lonergan Studies 13 (1995) 111-129 , Michael Vertin, "Judgments of Value, For the Later Lonergan," Method Journal of Lonergan Studies 13(1995) 221-248

<sup>25</sup>Loneragan, Insight, 629

<sup>26</sup>Loneragan, Understanding and Being, 226

<sup>27</sup>Loneragan, Insight, 621

or more important good.<sup>28</sup> While judgments of fact are restricted to the determination of what exists, judgments of value can also approve of what does not exist or disapprove of what does.<sup>29</sup> In making judgments of value, then, we are presented with options. This raises the question of choice.

Judgments of value or practical judgments have to do with deliberation and rational choice, choosing and selecting some goods of order over others.<sup>30</sup> Rational choice involves practical judgment or judgment upon value. Just as theorizing is cut short by judgment of fact, so also practical deliberation upon courses of action reaches its term in judgments of value and choices.<sup>31</sup> Just as the subject cannot be rational without making the judgment once the virtually unconditioned is grasped, so too the rationally self-conscious doer cannot be rational without making the choice dictated by practical judgment, judgment upon value.<sup>32</sup> When different courses of action are considered simultaneously, then consent to one and refusal of the others constitutes a choice.<sup>33</sup> And so long as there are choices, we are confronted with the exigence of making decisions

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<sup>28</sup>Lonergan, Method, 36

<sup>29</sup>Lonergan, Understanding and Being, 380. For this reason our strategy in laying out the taxonomy of forms and goods in Chapter Two and Chapter Three began from a judgment of fact about the existence of different kinds of goods of order associated with human industry. Here we acknowledged the existence of the goods of order of exchange, circulation, and ecologies. Then, relying on a logical analysis based upon the isomorphic structure of knowing, being, and the good, we worked out the remaining two levels of consciousness (i.e. experience and judgment), being (i.e. potency and act), and the good (i.e. particular good and value) corresponding to each of these existing goods of order.

<sup>30</sup>Ibid, 380; Lonergan, Insight, 621. (To be precise, in Understanding and Being, Lonergan says that choice has to do with the third level of good, however, in light of his later differentiation of the fourth level, I have generalized and said that he was referring to value in either case.) See Lonergan, Understanding and Being, 232.

<sup>31</sup>Lonergan, Collection, 108.

<sup>32</sup>This is what Lonergan refers to as the moral imperative. Lonergan, Understanding and Being, 232. It is the operative exigence for self-consistency in self-consciousness. It is what Lonergan means by the word 'ought'. This differs from the Kantian notion of ought, insofar as it affirms a categorical imperative, but not one derived wholly from speculative intelligence and reason. See Lonergan, Insight, 624. See also note # 167.

<sup>33</sup>Ibid, 636.



about which goods of order are to be brought into being, which are to be modified, which are to be terminated.

The whole order as it exists is a value that can meet with rational approbation on the level of judgment. And the effective rational approbation is the act of will, it is willing.<sup>34</sup> If willing is the act of deciding, willingness is the state in which persuasion is not needed to bring one to a decision, and will is the capacity to make decisions.<sup>35</sup> In other words, the inventiveness of practical intelligence can bring about practical results only if there exist the conjugate potency, form, and act of will, willingness, and willing that functions to single out some possibilities from the rest and, by that decision and choice, initiate and effect the transition from the intellectual conception of a possible order to its concrete realization (see Table 5-2).<sup>36</sup>

**Table 5-2 Structure of the will**

|                           |                               |                              |
|---------------------------|-------------------------------|------------------------------|
| <b>Will</b><br>(capacity) | <b>Willingness</b><br>(habit) | <b>Willing</b><br>(decision) |
|---------------------------|-------------------------------|------------------------------|

Decision then is an act of willing. The act of willing is rational because it deals with objects apprehended by insight. It occurs because of reflective grasp of reasons. It selects one pair of contradictories; it either consents or refuses. It confers actuality upon a course of action that otherwise will not exist.<sup>37</sup>

To conclude, the rationally self-conscious doer makes choices dictated by practical judgment or judgment upon value. The conjugate potency, form, and

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<sup>34</sup>Lonergan, Understanding and Being, 380.

<sup>35</sup>Lonergan, Insight, 646.

<sup>36</sup>Ibid., 621.

<sup>37</sup>Ibid., 636.

act of will, willingness, and willing arrive at a decision and choice, thereby grounding concrete realization. It is by making judgments of value, by choosing and deciding, it is by our very act of willing that the inventiveness of practical intelligence can issue in practical results.

### 5.3.2 *Moral Conversion and Self-Transcendence*

To make judgments of value, to select from a myriad of choices, and to decide what direction we shall take and what plans we shall put into effect requires in the very least that we be rationally conscious. But to become radically aware of doing so, and to appreciate the full ramifications, requires of us some capacity to be rationally conscious of our selves; that is to say, we must become rationally self-conscious.

This implies that the rationality of decision is radically different from the rationality of judgment of fact. Judgment of fact is an act of rational consciousness, but decision is an act of rational self-consciousness. The rationality of judgment of facts emerges in the unfolding of the detached disinterested desire to know, but the rationality of decision emerges in the demand of the rationally conscious subject for consistency between her knowing and her deciding and doing. The effective rationality of the subject of rational consciousness is radically negative; the subject is rational if other desires are not allowed to interfere with the functioning of the pure desire to know. On the other hand, the effective rationality of the subject of rational self-consciousness is radically positive; the subject is rational only if the demand for consistency between knowing and doing is followed by his deciding and doing in a manner consistent with that knowing.<sup>38</sup> The move to being rationally self-conscious

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<sup>38</sup>Ibid. , 636.

involves successive transformations of what one's own consciousness means to the subject.<sup>39</sup>

But the final enlargement and transformation of consciousness consists in the empirically, intelligently, and rationally conscious subject (1) demanding conformity of his doing to his knowing, and (2) acceding to that demand by deciding reasonably.<sup>40</sup>

It is important to note that practical reflection does not come to an end just because the object and motives of a proposed action are known; it comes to an end when one decides either in favour of the proposal or against it.<sup>41</sup> It is this addition of the further constitutive requirement of an act of willing that marks the shift from rational consciousness to rational self-consciousness. It is this addition of an act of willing that changes what is rational necessity in the field of knowing into rational exigence in the larger field of both knowing and doing.<sup>42</sup>

The meaning of the judgment of value, then, is to say what would be objectively good or better; it purports to state what is or is not truly good or really better.<sup>43</sup> This is certainly a tall order by today's standards! It may be argued that rational self-consciousness, far from grounding objectivity, actually is the radical turn toward the subject which obliterates any chance of objectivity and consequently makes it absurd to claim any rationality for value-judgments. However, value judgments are not an intrusion of subjectivity.

True value-judgments are the achievement of a moral objectivity, of an objectivity that, so far from being opposed to the objectivity of true judgments of fact, presupposes them and completes them by adding to mere cognitional self-transcendence a moral self-transcendence.<sup>44</sup>

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<sup>39</sup>Ibid. , 636.

<sup>40</sup>Ibid. , 637.

<sup>41</sup>Ibid. , 638.

<sup>42</sup>Ibid. , 638.

<sup>43</sup>Loneragan, Method, 37.

<sup>44</sup>Ibid. , 233.

The truth or falsity of a judgment of value therefore has its criterion as the authenticity of the subject's being, or his self-transcendence.<sup>45</sup> Therefore, true value-judgments are objective in the sense that they result from moral self-transcendence. False value-judgments are subjective in the sense that they represent a failure to effect moral self-transcendence. False value judgments are in fact an intrusion of subjectivity. Value-judgments are true values insofar as the possible choice is rational, but false insofar as the possibility of the choice results from a flight from self-consciousness, rationalization, or from moral renunciation.<sup>46</sup>

With the realization that one not only chooses between courses of action but also thereby makes oneself an authentic human being, with the discovery of one's self as moral being, there emerges in consciousness the significance of personal value and the meaning of personal responsibility.<sup>47</sup> Responsibility, therefore goes beyond fact and desire and possibility to discern what truly is good and what is only apparently good.<sup>48</sup>

It is in this rational and responsible moral self-consciousness, it is in this moral self-transcendence that the good as value comes to light, and the meaning of moral conversion is rendered coherent.<sup>49</sup> One discovers that there is an immanent good of order in the self-developing subject who is making herself by her choices.<sup>50</sup> There is moral development of the subject away from what Kierkegaard has called the aesthetic sphere concerned with objects of appetite. There is the reversal, the conversion, the transformation, of that type of

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<sup>45</sup>Ibid. , 37.

<sup>46</sup>Lonergan, Insight, 624.

<sup>47</sup>Lonergan, Method, 38. It is only through free acts of willing that one makes oneself. Lonergan, Understanding and Being, 229.

<sup>48</sup>Lonergan, Method, 11.

<sup>49</sup>Lonergan, Insight, 624.

<sup>50</sup>Lonergan, Understanding and Being, 233.

organization in the subject, to bring her in harmony with the objective good of order. What is good is whatever is objectively good; it is the proper functioning of society around one and of the order within one, the justice within the person.<sup>51</sup> Moral conversion, therefore, is to values apprehended, affirmed, and realized by real self-transcendence.<sup>52</sup> Moral conversion changes the criterion of one's decisions and choices from satisfactions to values.

So we move to the existential moment when we discover for ourselves that our choosing affects ourselves no less than the chosen or rejected objects, and that it is up to each of us to decide for himself what he is to make of himself. Then is the time for the exercise of vertical freedom and then moral conversion consists in opting for the truly good, even for value against satisfaction when satisfaction and value conflict.<sup>53</sup>

This is the meaning of moral development. It is development of the good which is one's concern,<sup>54</sup>

### ***5.3.3 The Impact of Moral Conversion on Economic Development***

Of course, doing good is not merely development in the subject, it is also promoting the good of order in the concrete situation in which one lives.<sup>55</sup> The good of order is something determinate. I have considered the good of order in terms of markets, economies, and/or ecologies. Such goods of order can be values insofar as they are chosen by a rationally self-conscious subject. They may be defined as terminal values inasmuch as they are objects for possible choices<sup>56</sup>, Terminal values are the values that are chosen; true instances of the particular good, a true good of order, a true scale of preferences regarding values and

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<sup>51</sup>Ibid. , 234.

<sup>52</sup>Loneragan, Method, 241.

<sup>53</sup>Ibid. , 240.

<sup>54</sup>Loneragan, Topics in Education, 97.

<sup>55</sup>Ibid. , 234.

<sup>56</sup>Loneragan. , Insight, 624.

satisfactions.<sup>57</sup> Within terminal values themselves, there is a hierarchy; for each is an intelligible order, but some of these orders include others, some are conditioning and others conditioned, some conditions are more general and others less.<sup>58</sup>

I have spoken of values only as terminal values throughout the preceding chapters. Nevertheless, correlative to these terminal values are the originating values that are doing the choosing: they are authentic individuals achieving self-transcendence by their good choices.<sup>59</sup> Values are originating inasmuch as in the fact that they are chosen modifies our habitual willingness (formal level of will) our orientation in the universe, and so our contribution to the dialectical process of progress or decline.<sup>60</sup> Terminal values are subordinate to originating values, for the originating values ground good will, and good will grounds the realization of the terminal values.<sup>61</sup>

Thus without moral conversion or self-transcendence, without good will, terminal values will not be true values because they originate from the operations of an inauthentic subject. The particular good desired and the good of order erected to ensure regular achievement of that particular good will not be true values for they are brought into existence as the objects of irrational choice. There exists in the irresponsible subject either a radical inconsistency between knowing and doing, or a consistency with a defective knowing. What is

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<sup>57</sup>Lonergan, Method, 51. Objects of desire are values only inasmuch as they fall under some intelligible order, for the value is the possible object of choice, choice is an act of will, and the will is intellectual appetite that regards directly only the intelligible good. See Lonergan, Insight, 624.

<sup>58</sup>*Ibid.*, 624. Values are actual, or in progress, or in prospect, according as they have been realized already, or are in the course of being realized, or merely are under consideration.

<sup>59</sup>Lonergan, Method, 51.

<sup>60</sup>Lonergan, Insight, 624.

<sup>61</sup>*Ibid.*, 624.

understood as a rational necessity in the field of knowing is replaced with an irrational exigence in the larger field of both knowing and doing.

The impact of moral conversion (or the lack thereof) on human industry can be illustrated in terms of the dominant aspects of the goods operative within each of the three forms of human industry. From the previous discussions one can see that the market form is predominantly concerned with the satisfaction of desires. The acquisition of stocks is the dominant good. The terminal value is organized around objects of appetite.

The self that is organized on the level of objects of appetite is radically in conflict with guidance by the good of order, any good of order. He wants to rearrange the world about himself; he is an egoist. For the self organized on that level, the good of order is not an objective intelligibility in the way that things can be intelligently arranged and the way things can function. The good of order, from that standpoint, is the ordering of things around me.<sup>62</sup>

Consequently, in terms of the market form, the originating value is dominated by what Lonergan calls the aesthetic sphere of the egoist. The acquisition of stock in service of satisfactions dominates and the good of order of exchange is ordered simply to provide these satisfactions. At this level we claim that it is only rational to maximize one's utility; the invisible hand will take care of the rest. We are left to question whether or not stock acquisition is a true value if the originating value demonstrates such a lack of moral conversion.

In terms of the economic form of human industry, the particular good often takes a back seat to the good of order. Thus we manipulate the myriad of economic indices and parameters not so much to accrue profits on an individual basis, but to ensure a regular attainment of profits in general. The good of order of circulation is developed into a full-blown science, but there are mixed feelings about its ends. While profits are still a dominant desire, and so egoism prevails,

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<sup>62</sup>Lonergan, *Understanding and Being*, 234.

there nevertheless emerges an understanding that the economy can be arranged so as to serve the purposes of a greater common good, even sometimes at the expense of individuals' profits.<sup>63</sup> It seems that differentiation of the market and economic forms begins with originating value that grasps, at least tentatively, some version of value that is based on a grasp of intelligently ordered satisfactions and not just bald satisfactions alone.

As I have stressed, the ecological form puts value above satisfaction and works out a good of order that is in service of the community of being in its broadest sense. The terminal value of epigenesis reflects an originating value that is more fully aware of an intelligently ordered set of satisfactions. At this level, unreasonably ordered desires are rejected outright, all desires are scrutinized in the light of rational examination of the impact on goods of order, and even originating values themselves are cross-examined in the court of rational self-conscious reflection. It is not good enough to merely desire some end, as the egoist in the market place might do, nor is it good enough to know how to cleverly order the world so as to obtain such desires consistently, as the economist might strive for, but it is of utmost importance that we go to the heart of the matter and question the very origins of our desires, and our clever innovations. In other words, the ecological form is ultimately and intimately concerned with the relationship between originating and terminal values. When we consider human industry in terms of the ecological form, we grasp that we are responsible for the terminal values we create. With the move to an ecological

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<sup>63</sup>Perhaps the tendency by some to regard the economy as just some bigger version of a marketplace has more to do with an underlying egoistic tendency than it has to do with a lack of intelligible differentiation. Perhaps the tendency to regard the economy as a large market is a rationalization, a justification for our refusal to accept the invitation for moral conversion, for reversal of a self-centred egoism.



understanding of human industry, we turn and face ourselves, asking not only about the world we make, but what the making says about who we are.

This is not to say that egoism is only the hallmark of the market form, or that only those with an ecological understanding of human industry have been morally converted. We can have an understanding of human industry dominated by the market form, but still choose the value of welfare over mere stock acquisition. We can understand the economy as a good of order, and either use it to improve the wealth of nations, or abuse it in the greedy pursuit of unlimited profits. We can understand the intricate balances of an ecology and value the awesome potential for further developments, or else desire preservation of the *status quo* for the selfish aesthetic pleasures it brings. Thus, there are those who would look out for the welfare of others, and be very concerned that they have sufficient supplies of goods and services. There are those could not care less that their greed can upset entire economies. And there are those would murder their neighbors in the name of eco-terrorism. Inasmuch as our comprehension of human industry remains undifferentiated, and in as much as we all suffer a lack of intellectual and moral conversion, our ethical perspective on the development of human industry will certainly be a mixture of these outlooks.

It must be stressed, therefore, that the shift from satisfactions to values can and does occur within the confines of each economic form. At the market level, one can move from the desire for stock acquisition to valuing the welfare of society. Giving things to the needy is an example of this. At the level of the economy, one can move from caring about profits, to valuing the wealth of nations. Forgiving international debt is an example. At the level of the ecology, one can move from caring about stability of things and events, to valuing the epigenetic capacity of our planet. Setting aside world heritage sites could be an

example here. In each case, there is evidence of moral conversion. However it is not accompanied by the emergence of a higher viewpoint at the level of intelligibility; what we find good about human industry develops, but what we understand about it does not. In short, moral conversion can proceed without intellectual conversion, and intellectual conversion can proceed without moral conversion. One is not to infer that intellectual comes first, then moral.<sup>64</sup>

But as I have alluded to throughout this dissertation, I believe that moral conversion is for the most part accompanied by an intellectual conversion such that there is a transformation from the market, to the economic, to the ecological form, along with a complementary shift from desire toward value. It seems that our review in Chapter One would support this contention. At least ethicist Richard Norgaard has noticed this tendency as well.

Broadly conceived, the call for SD [sustainable development] resonates with the rise of new understandings of environmental systems, technologies, social organization, value systems, and the ways in which all these variables interact. With SD as a meta-belief we enter into a wholly new realm.

In this emerging world view, knowledge is intertwined with values, social organization, technologies, and resource systems.<sup>65</sup>

#### 5.3.4 *Summary*

Judgments of value involve knowledge of reality, intentional responses to values, and the initial thrust towards moral self-transcendence constituted by the judgment of value itself.<sup>66</sup> The development of knowledge and the development of moral feeling head toward the existential discovery of one's self as a moral being and the realization that one not only chooses between courses of action, but also thereby makes oneself an authentic human being or an inauthentic one.<sup>67</sup>

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<sup>64</sup>Lonergan, *Method*, 243.

<sup>65</sup>Krishnan, *A Survey of Ecological Economics*, 81.

<sup>66</sup>Lonergan, *Method*, 38.

<sup>67</sup>*Ibid.*, 38.

We experience our liberty as the active thrust of ourselves terminating the process of deliberation by settling on some possible course of action and proceeding to execute it.<sup>68</sup> Insofar as that thrust of the self opts for the truly good, the self is thereby achieving moral self-transcendence; one is existing authentically, constituting oneself as an originating value, and thereby bringing about terminal values (i.e. goods of order that are truly good and instances of the particular good that are truly good). In other words particular goods and their attendant goods of order are true terminal values only insofar as they originate from an authentic, rationally self-conscious, self-transcendent moral subject.<sup>69</sup>

Moral conversion occurs inasmuch as one discovers what is inauthentic about oneself and turns away from it.<sup>70</sup> Harmful, dangerous, misleading satisfactions are dropped and values are apprehended where before they were overlooked.<sup>71</sup> This moral conversion is from desire for satisfaction, to value even if value must be chosen at the expense of satisfaction. The subject discovers a further dimension of consciousness as his concern shifts from knowing being to realizing the good. Here emerges freedom and its corresponding responsibility individually for the lives that we live, and collectively for the world in which we live them.<sup>72</sup>

The shift from satisfactions to value is not a result of economic transformation, but a source of such transformation. Only by becoming a rationally self-conscious subject, only upon moral conversion, can the good of human industry and the good of development develop.

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<sup>68</sup>Ibid. , 50.

<sup>69</sup>Ibid. , 50.

<sup>70</sup>Ibid. , 271.

<sup>71</sup>Ibid. , 52.

<sup>72</sup>Loneragan, Collection, 219.

#### 5.4. The Basis for Cooperation in Human Industry

Conversion is existential, intensely personal, utterly intimate, but not solitary; it can happen to many, they can form a community, it can become an historical community.<sup>73</sup> That is to say, conversion possesses not only personal but social dimensions as well. In this rather long section I shall look at the social dimensions of moral and intellectual conversion. I shall suggest that the good of order is the concrete manner in which cooperation is worked out. In the second sub-section I shall outline the conditions for effective cooperation, showing the effects of intellectual and moral conversion. Next I shall compare the work of Kierkegaard, Sorokin, and Lonergan to indicate the precise way in which conversion effects cooperation in human industry. In the final sub-section I shall demonstrate how conversion presents the possibility of transcending the boundaries of dialectically opposed communities.

##### 5.4.1 *Cooperation and the Good of Order*

In some ways, the good of order is equivalent to the order of personal relations.<sup>74</sup> It results from the goodness of the persons that compose the order: what people make of themselves determines their concrete immediate world, its good and its evil.<sup>75</sup> In this way the good of order is a social value which conditions the vital values of the whole community.<sup>76</sup>

Moreover, the good of order is a social value which we can want for others.<sup>77</sup> It is the intelligible pattern of relationships, the understood and accepted practical arrangements that condition the fulfillment of each person's

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<sup>73</sup>Lonergan, Method, 130-131

<sup>74</sup>Lonergan, Topics in Education, 263. Lonergan suggests that this was clearer in feudal society.

<sup>75</sup>*Ibid.*, 263.

<sup>76</sup>Lonergan, Method, 31. Some vital values would include health, strength, vigor, and grace

<sup>77</sup>Lonergan, Understanding and Being, 310.

desires by their contribution to the fulfillment of the desires of others.<sup>78</sup>

Therefore, while individuals operate and this operation procures for them instances of the particular good, to a large extent our operating is cooperating.<sup>79</sup> There is a flow of particular goods of human industry because we operate with coordination and interdependence.<sup>80</sup> As one economist said, "selfish individualism based on sheer profit maximization and economic aggrandizement is not the essence of human reality. Trade, as one of the earliest human industry [sic] that man undertook, is the first sign of the cooperative basis of the economy."<sup>81</sup> A good of order involves a flow of benefits, which in turn involves a flow of operations, which are in fact cooperations.<sup>82</sup> The good of order is the concrete manner in which such cooperation is worked out. Although it is distinct from instances of the particular good it is not separate from them, for it regards particular goods not singly and in relation to the individual, but collectively and as recurrent.<sup>83</sup>

Although I may have so far presented a somewhat over-simplified definition of the good of order, it must now be stressed that the good of order is not just a sustained succession of instances of the particular good. The underlying good of order consists in 1) the ordering of operations so that they are cooperations which ensure the recurrence of effectively desired instances of the particular good, and 2) the interdependence of effective desires or decisions with

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<sup>78</sup>Loneragan, Insight, 237.

<sup>79</sup>Loneragan, Method, 48.

<sup>80</sup>Loneragan, Topics in Education, 35.

<sup>81</sup>Choudhury, Economic Theory and Social Institutions, 74

<sup>82</sup>Cooperation involves the development of internal individual habits and the concomitant development of a common ethos (an understanding of what one may reasonably expect another member of the community to do). Lonergan, Understanding and Being, 380. The goods of order are the actually functioning or malfunctioning set of "if-then" relationships guiding operators and coordinating operations. Lonergan, Method, 49

<sup>83</sup>*Ibid.*, 49.

the appropriate performance by cooperating individuals.<sup>84</sup> Thus any form of the good of order of human industry involves interdependence and cooperation among subjects. It seems that Adam Smith was well aware of this point. In his discussion of the division of labour, he describes the manufacture of pins as a complex set of cooperative actions.

One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the head requires three distinct operations; to put it on is a peculiar business, to whiten the pins is another; it is even a trade by itself to put them into the paper; and the important business of making a pin is, in this manner, divided into about eighteen distinct operations.<sup>85</sup>

Elsewhere he notes, "in civilized society he [humanity] stands at all times in need of the co-operation and assistance of great multitudes, while his whole life is scarce sufficient to gain the friendship of a few persons."<sup>86</sup>

#### 5.4.2 *Conditions for Cooperation*

Bernard Lonergan argues that effective cooperation, and thus the emergence of a good of order, depends upon certain factors. First there are the habits of the subject. These include cognitional habits (not having to learn), volitional habits (not having to be persuaded), and skills (not having to acquire skill).<sup>87</sup> Habits are a condition of coordinated human operations, for if we had to stop and learn, or be persuaded, or acquire the skills, every time something had to be done, nothing would ever get done.<sup>88</sup> The second condition for effective cooperation lies in institutions.<sup>89</sup> An institution is a mechanism set up for making

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<sup>84</sup>Ibid. , 49. The probability of satisfaction of particular goods is in direct correlation with cooperative performance.

<sup>85</sup>Smith, Wealth of Nations, 110.

<sup>86</sup>Ibid. , 118.

<sup>87</sup>Recall that Lonergan calls the formal aspect of willingness 'habit.'

<sup>88</sup>Lonergan, Topics in Education, 35.

<sup>89</sup>Ibid. , 35-36. Institutions are like habits but in the objective order.

decisions and facilitating the flow of coordinated operations <sup>90</sup> Any current functioning good of order, then, is what it is mostly because of past functioning institutions <sup>91</sup> Cooperating follows a pattern fixed by the roles and tasks to be performed cooperatively within the institutional framework of such institutions as the family, society, state, church, economy, polity and so on <sup>92</sup> The final condition for cooperation is personal status. When there are coordinated operations resulting in a flow of particular goods, there arise personal relations that are congruent with the structure of the good of order. These personal relations give rise to status. For example, a corporation is an institution in which a manager fulfills a particular role in the structure of the good of order which is the organization, this role involves the manager in a specific set of relationships which give the position a specific status in the corporation. In this way status arises from the personal relations that result from coordinated human operations <sup>93</sup>

Therefore, the habits of the subject, their objectification in the public institutions of society, and the personal status that stems from this objectification, all condition and are conditional of the cooperation required in the good of order.

#### ***5.4.3 The Relationship Between Conversion and Community***

Bernard Lonergan has made a link between Søren Kierkegaard's work on existential subjectivity and Pitirim Sorokin's differentiation of society <sup>94</sup> This link allows us to further grasp the role of conversion of the individual in relation to

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<sup>90</sup> For example, one can drive down the street without the fear of everyone trying to hit you because of socialization through institutions. See Lonergan, Topics in Education, 35-36

<sup>91</sup> Lonergan, Method, 181

<sup>92</sup> Lonergan, Method, 48

<sup>93</sup> Lonergan, Topics in Education, 36. A prime example of personal status in relation to the good of order would be the family. The best way to apprehend the good of order of a family is by apprehending personal relations. *Ibid*, 41

<sup>94</sup> Pitirim Sorokin, Social and Cultural Dynamics, 4 vols., (New York: American Book Co., 1937-41)

the cooperative requirements of establishing any good of order of human industry. I shall begin with an overview of existential subjectivity.

Søren Kierkegaard has suggested that there are three approaches the subject takes to value; aesthetic, ethical, religious.<sup>95</sup> The subject interested in aesthetic value is interested in particular goods.<sup>96</sup> Here the intelligible is the sensible, the world as experienced.<sup>97</sup> The good of order at this level is 'transparent in all the things made, all actions performed, in the habits and the institutions.'<sup>98</sup> Value at the aesthetic level is apprehended by insight into the concrete.<sup>99</sup> The egoist who would put stock acquisition above any good of order is an example of someone operating in the aesthetic sphere of value.

On the other hand, the subject interested in ethical value is interested in order.<sup>100</sup> In ethical value the focus is not on the good as developing object (as in the aesthetic approach), but on the good that is the subject. Ethical value is the emergence of the subject as autonomous, responsible, free. The ethical development of the subject is the becoming aware that one is intelligent, rational, free, and responsible. The excellence of man, the proper good of man, is precisely doing what is right because he is free.<sup>101</sup> In ethical value the individual demands correspondence between his rationality and his activity.<sup>102</sup> The economist who would put the integrity of economic order above profits or opulence, say by adjusting interest rates with the intention of controlling inflation, is an example of someone operating in the ethical sphere of value.

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<sup>95</sup>Loneragan, Topics in Education, 37.

<sup>96</sup>*Ibid.*, 42.

<sup>97</sup>*Ibid.*, 37.

<sup>98</sup>*Ibid.*, 37.

<sup>99</sup>*Ibid.*, 179.

<sup>100</sup>*Ibid.*, 42.

<sup>101</sup>*Ibid.*, 37.

<sup>102</sup>*Ibid.*, 179.



For Kierkegaard, the subject interested in religious value is interested in value *per se*.<sup>103</sup> If one stops short at ethical value, one is left with a secularist philosophy. With ethical value there emerges the autonomy of the spirit, the subject taking his stand upon the truth, upon what is right, upon what is good. For Kierkegaard, religious value appears when the autonomous subject goes a step further and realizes within himself or herself an internal order, the metaphorical justice of justification, an inner hierarchy in which sense is subordinate to reason, and reason is subordinate to the transcendent guidance of that internal order.<sup>104</sup> In religious value the rational individual is using truth to know being, orienting himself before God within the world and history.<sup>105</sup>

Sorokin's sensate civilization parallels Kierkegaard's aesthetic subject according to Lonergan. It is concerned with particular goods. The good of order is understood simply as a means for the attainment of particular goods.<sup>106</sup>

There is an expression of this mentality in [Jeremy] Bentham's formula 'The greatest good of the greatest number,' where the greatest good is the greatest number of particular goods, and where there is sought a utilitarian calculus that would add up the particular goods and portion them out equally.<sup>107</sup>

Of course this utilitarian calculus is precisely at the root of the market conjugate form of human industry; as we have seen, the hypothesis of marginal utility is built upon such a position. We may say that the market form, with its dominant form of the proportionate good being the particular good of stock acquisition, seems quite characteristic of a sensate civilization. Furthermore, we may say that welfare seems to be an aesthetic value appropriated by a predominately sensate society. This would imply something about intellectual conversion as well. Since

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<sup>103</sup>Ibid , 42

<sup>104</sup>Ibid , 38.

<sup>105</sup>Ibid , 179

<sup>106</sup>Ibid , 42

<sup>107</sup>Ibid , 42

the aesthetic is concerned with experience, we may say that the degree of intellectual conversion is limited in the sensate civilization insofar as the known tends to be whatever is experienced as already-out-there-now.

Sorokin's idealistic civilization parallels Kierkegaard's ethical subject. The idealist society insists upon the order itself as the good.<sup>108</sup> It seems that the economic conjugate form is characteristic of such an idealistic society. It is concerned with keeping the 'economic system' running smoothly, whether through free-trade (as a capitalist may argue) or by implementing detailed five-year plans (as the communist may argue), or by priming the pumps when things falter (as the socialist may argue). Regardless of the type of economic idealism, we may say that the economic conjugate form, being dominated by the good of order of circulation, is characteristic of an idealistic civilization. Furthermore, we may say that wealth, as the economic form's value, appears to be the ethical value appropriated by a predominately idealistic society. This would also imply something about intellectual conversion. Since the ethical is concerned with the intelligible good of order, we may say that the degree of intellectual conversion may be less limited than in a sensate civilization. The known is more than just what is out-there-now-real, still the gulf between the subject and the object may be great enough that there may be suffered a collapse into some kind of empiricism, or idealism. In these cases the chances of economic transformation are restricted because rejection of the reigning good of order is seen as immoral, unethical, and even heretical, precisely because the subject is seen to be rejecting the empirically verified facts or the ideally rationalized truth. And so each idealist society excuses its ghettos (capitalism), its gulags (communism), and its soup-lines (socialism) as necessary trash-heaps for the unenlightened.

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<sup>108</sup>Ibid. , 42.

Finally, Sorokin's ideational civilization parallels Kierkegaard's religious subject. The ideational civilization insists on attending to value; it asks what good of order is best.<sup>109</sup> The ecological conjugate form appears to be characteristic of such an ideational society. It is concerned with discerning which goods of order, and what particular goods are truly good, truly best choices. It is ready to criticize not only the reigning economic order, but the self who would put such an order in place. It is willing to put true value in place even if this requires us to forfeit particular goods, desires, and satisfactions such as more convenience, more profits, more stability. Furthermore, we may say that health, as the form of ecological value, is the religious value taken up by a predominately ideational society. The good of order and its set of particular goods is judged in light of the anticipated effects upon the health of whole ranges of flexible schemes of recurrence. This also would imply something about intellectual conversion as well. Since value is concerned not only with experiencing and understanding, but also with judgments of fact and value, we may say that the degree of intellectual conversion is most complete in an ideational civilization. The known is understood to be more than just some form of naive realism. To know the real world requires of us that we not only be attentive, not only intelligent, but reasonable and responsible as well. In the ideational society there are no excuses for ghettos, gulags and soup-lines. There are no scape-goats. If the reigning good of order is inadequate, and we are unwilling to change it, then we must acknowledge our incapacity and take responsibility for the problems we create and the evils we unleash.

Lonergan has transposed the subjective and social schema of Kierkegaard and Sorokin to define corresponding levels of community.

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<sup>109</sup>Ibid. , 42.

Corresponding to experience and desire is intersubjective community, or primitive society.<sup>110</sup> Primitive community is intersubjective and this intersubjectivity underpins the move to civility.<sup>111</sup> Its basis is spontaneous tendency and its expansion is the clan, the tribe, the nation.<sup>112</sup> However, from primitive society and its primary intersubjectivity, there is the development of civil society.<sup>113</sup>

Corresponding to intellectual insights and the good of order, there is civil community. It embraces and harmonizes material techniques, economic arrangements, and political structures.<sup>114</sup> Civilization emerges when we ask about the difference between nature and convention.<sup>115</sup> The transformation to civilization forces on us a new notion of the good. In primitive society, the good is identified with the object of desire, but in civilized society, there is the additional component of the good-of-order.<sup>116</sup>

This order originated by human invention and convention ceases to be an optional adjunct and becomes an indispensable constituent of human living. For the long-run effects of technological advance and new capital formation consists in some combination of increased population, reduced work, and improved standards.<sup>117</sup>

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<sup>110</sup>Loneragan, Collection, 109

<sup>111</sup>Loneragan, Insight, 237

<sup>112</sup>Loneragan, Collection, 109

<sup>113</sup>Loneragan, Insight, 238-239

<sup>114</sup>Loneragan, Collection, 109

<sup>115</sup>Loneragan, Insight, 238

<sup>116</sup>*Ibid* , 237

<sup>117</sup>*Ibid* , 239 This is one more reason why going 'back to nature' in the naive realistic or idealistic sense is immoral. To do so would require a conscious decision to destroy the very civilization which made pre-human goods of order not objects of desire, but objects of rational choice or values. There is a profound difference between those who would take authentic ecological responsibility for the earth's heritage as over and opposed to those who, like Rousseau, want some mythical return to nature by the noble yet primitive savage. Regressing back to the primitive state, we would once again reduce the good to satisfaction of bald desire; only this time we would be armed, at least for a while, with all the technological advances of a past civilization. If the exploitation of the earth by previous primitive societies was minimized by their sheer lack of practical capacity to do so, the new savage society would not be so limited. But it would nevertheless be just as irresponsible, if not more culpable.

Concomitant with the technological and material development, there also takes place a complimentary series of economic and political innovations. Each of these is motivated by the underlying technical and material changes; each undergoes adaptation demanded by subsequent changes.<sup>118</sup> "For just as technology and capital formation interpose their schemes of recurrence between man and the rhythms of nature, so economics and politics are vast structures of interdependence invented by practical intelligence for the mastery not of nature but of man."<sup>119</sup> This transformation imposes on man a new notion of the good that moves away from the particular good of primitive society, to the good of order of civilization.

Corresponding to judgments of value, there is cultural community which transcends the frontiers of states and epochs of history to become a long-standing non-political cultural fact which is the field of communication and influence of artists, scientists, and philosophers.<sup>120</sup>

Let us take our bearings. I have been trying to grasp the role of conversion of the individual in relation to the cooperative requirements of establishing any good of order of human industry. Firstly, we have found that the good of order is the concrete manner in which cooperation is worked out. Secondly, the conditions for effective cooperation, and thus the emergence of a good of order, are the habits of the subject, their objectification in the public institutions of society, and the personal status that stems from this objectification. Among these habits, cognitional habits and volitional habits are affected and effected by intellectual and moral conversion. Thirdly, the precise way in which conversion

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<sup>118</sup>Lonergan, Insight, 238-39.

<sup>119</sup>*Ibid.*, 238.

<sup>120</sup>Lonergan, Collection, 109.

effects human cooperation was revealed by comparing the work of Kierkegaard, Sorokin, and Lonergan (see Table 5-4).

**Table 5-3 Subjectivity, society, community**

|                                              |                        |                      |                   |
|----------------------------------------------|------------------------|----------------------|-------------------|
| <b>Cognitional</b>                           | <b>Experience</b>      | <b>Understanding</b> | <b>Judgment</b>   |
| <b>Ontological</b>                           | <b>Potency</b>         | <b>Form</b>          | <b>Act</b>        |
| <b>Proportionate Good</b>                    | <b>Particular Good</b> | <b>Good of Order</b> | <b>Value</b>      |
| <b>Subjective Horizons<br/>(Kierkegaard)</b> | <b>Aesthetic</b>       | <b>Ethical</b>       | <b>Religious</b>  |
| <b>Society (Sorokin)</b>                     | <b>Primitive</b>       | <b>Civil</b>         | <b>Ideational</b> |
| <b>Community Levels<br/>(Lonergan)</b>       | <b>Intersubjective</b> | <b>Civil</b>         | <b>Cultural</b>   |
| <b>Economic Forms</b>                        | <b>Market</b>          | <b>Economic</b>      | <b>Ecological</b> |

By relating existential subjectivity to the structure of society and community (through a comparison of the aspects of the good) we can see that conversion from satisfaction to value determines the kind of cooperation and the kind of society or community one participates in. We may conclude that there is a relationship between conversion and community such that intellectual and moral conversion determines the capacity of society to cooperate in the establishment of goods of order and values in human industry.

#### **5.4.4 Vertical Freedom**

As mentioned already, there is an existential moment when we discover for ourselves that our choosing affects ourselves no less than the chosen or rejected objects, and that it is up to each of us to decide for himself what he is to make of himself. I said that this moment marks the time for exercise of vertical

freedom, for opting for the truly good, even for value against satisfaction when satisfaction and value conflict. I also said that the exercise of this vertical freedom is the meaning of moral development and the moment of moral conversion.

But what is the significance of this notion of vertical freedom? As Lonergan noted, it was Joseph de Finance who drew the distinction between a horizontal exercise of freedom and vertical exercise of freedom. A horizontal exercise is a decision or choice that occurs within an established horizon. A vertical exercise is the set of judgments and decisions by which we move from one horizon to another. It is in vertical liberty that we discover the foundations of judgments of value discussed above.<sup>121</sup> While vertical shifts can develop out of lower horizons, there also can be a vertical shift that involves an about-face; it comes out of the old by repudiating its characteristic features, it begins a new sequence. Such an about-face, and new beginning is what is meant by a conversion.<sup>122</sup>

The three Kierkegaardian spheres of existential subjectivity are what Lonergan equates with the notion of horizons.<sup>123</sup> Each sphere of subjectivity is a closed system, and to move from one to another is not accomplished by arguing from within that sphere, "one has to be 'dynamited out of it'."<sup>124</sup> In other words, the formulation of horizons varies with the presence or absence of conversion, and that conversion is never the logical consequence of one's previous position but, on the contrary, a radical revision of that position.<sup>125</sup> Any change in horizon

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<sup>121</sup>Lonergan, Method, 40

<sup>122</sup>Ibid , 237

<sup>123</sup>Lonergan, Topics In Education, 179

<sup>124</sup>Ibid , 179

<sup>125</sup>Lonergan, Method, 338. In regards to method in the study of theology, conversion is formulated in terms of horizons in the functional specialty of foundations. See Ibid , 142. In other words, foundations objectifies conversion. Ibid , 144.

is done not on the basis of that horizon, but by envisaging a quite different and incomprehensible alternative and then undergoing a conversion.<sup>126</sup>

Therefore conversion provides us with the capacity to move from one horizon to the next, to exercise vertical freedom as it were. In terms of subjectivity, this is the shift from the aesthetic sphere, to the ethical, to the religious. Insofar as this shift involves the cooperative efforts of a civilization or society, it is a shift from the sensate, to the idealistic, to the ideational society. In Lonergan's terms, the shift in horizons brought about by conversion is the shift from intersubjective primitive community, to civil community, to cultural community. No matter the perspective, be it the subject as individual or the subject-in-community, conversion results in a change of horizons for the individual and for the community. Insofar as conversion can involve not only individuals, but whole communities, societies, cultures, then conversion becomes a catalyst that permits us to transcend the boundaries and barriers between communities.

#### 5.4.5 *Summary*

Conversion as lived, affects all of our conscious and intentional operations and cooperation.<sup>127</sup> Intellectual and moral conversion are not just aspects of an individual's life, they are aspects of human community, its horizons, its coordination and cooperation. Indeed, human community reflects the conversions, both intellectual and moral, that its individual members have undergone. Transformation and development of human industry are cooperative efforts that depend on the conversion of the subjects who work together to bring about such changes.

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<sup>126</sup>Ibid. , 224.

<sup>127</sup>Ibid. , 130-131.



As it stands though, the presence and absence of intellectual and moral conversion gives rise to distinct community boundaries which impede such cooperation, transformation, and development. Parallels between the work of Kierkegaard, Sorokin, and Lonergan provide us with a way of identifying these boundaries. A sensate community which focuses on aesthetic value is interested in particular goods. An idealistic community which focuses on ethical value is interested in good of order. An ideational community which focuses on religious value is interested in value *per se*.

By this account, the market form seems to be dominated by an aesthetic interest in particular goods within a predominantly sensate culture. From this perspective, development of human industry occurs whenever the sum total of particular goods is satisfied. There seems to be a dominant utilitarian ethic quite similar, if not identical to the moral approach of Bentham and other great utilitarians.

The economic form seems to be dominated by an ethical interest with order within an ideal society. From this perspective, economic development occurs whenever the good of order is operating smoothly. There seems to be a dominant consequentialist ethic, for the good fruits of a smooth running economy (or the bad fruits of a faltering one) are understood to be the consequence of the very operation of the economy itself.

Finally, the ecological form seems to be dominated by an interest in value *per se* within an ideational culture. From this perspective, economic development occurs whenever value is evaluated truthfully by authentically rational self-conscious actors. There seems to be a dominant teleological ethic, for the overarching concern seems to be determining the significance of our intentions

that direct our economic transformations. From this perspective, where we are going speaks volumes about who we have been!<sup>128</sup>

If differences between our intellectual and moral conversion give rise to distinct community horizons, they also presents us with the potential for transcending such horizons, because conversion does not just mean a change in horizon, but also that one may begin to belong to a different social group, or to belong within the existing group in a new way.<sup>129</sup> And if intellectual and moral conversion offers us a basis for expanded cooperation in human industry, for eradicating barriers between communities and within communities, it may also offer us the possibility for developing a more broadly held notion of the common good of human industry.

### 5.5. The Incapacity for Sustained Development

Unfortunately, the gulf between possibility and probability is wide! If the possibility of a common good of human industry is raised because the exercise of vertical freedom can lead to transformation, the probability of its achievement is gravely effected by the problem of human liberation.

#### 5.5.1 *The Limitations Set By Conversion*

The good of human industry which is held in common, the common good of any community, can be considered from the three aspects of particular good, good of order, and value. The common good of human industry is potential when desires originate through a common field of experience. The common good is formal when there is a common understanding of the good of order of human industry. The common good of human industry is actual to the degree that there

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<sup>128</sup>It must be stressed again that individuals and sub-cultures displaying the characteristics of all three kinds of community can persist within a given social group Lonergan, Collection, 109

<sup>129</sup>*Ibid* , 269

are common judgments about the value of human industry. Finally, the common good of human industry is realized by common acts of willing, by deciding, choosing and doing cooperatively. The achievement of common good of human industry is the achievement of a community, the achievement of people with a common meaning.<sup>130</sup>

However, differences in conversion gives rise to dialectically opposed horizons that impede us from arriving at a common good of human industry.<sup>131</sup> Because of differences between conversions, what constitutes the particular good, good of order, and value of human industry differs between individuals and communities. And by virtue of the relationship between the aspects of the good and the aspects of the different forms of development, so too will differences between conversions lead to different versions of 'sustainable development.' As long as horizons are radically different, there will be dialectic opposition. Indeed, worlds collide because of the ambiguity surrounding our conversion.

Consequently, the lack of intellectual and moral conversion effectively militates against a common good of human industry. The common good has very different meanings. For instance, recall that at the level of desire the egoist prevails. At this level, the good of economic cooperation is to promote my satisfactions through the acquisition of stocks of goods and services. We can have a common good only insofar as the aggregate of our satisfactions is more or less met by the market set-up we create and maintain. We value welfare, if welfare means the sum of satisfactions of particular goods, including mine. Thus at the market level, the common good is reduced to the sum of everyone's utility functions. At the next level, we value the good of order of capital circulation, we value the system of wealth-getting. The good of human industry at this level is

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<sup>130</sup>Ibid. , 226.

<sup>131</sup>Ibid. , 247.

held in common only to the degree that the good of order is maintained. We value wealth because it is the natural outcome of a well-ordered economy. Finally, at the level of value, the good of economic cooperation is to promote a truly better self, community, world. We can have a common good only insofar as we agree to set aside our desires when they conflict with the truly valuable, as determined cooperatively in historical communities of authentic rationally self-conscious and self-transcendent actors. In terms of the market, economy, and ecology, the common good is potentially, formally, and actually quite different. And, as I have suggested, if the transformation from the lower to the higher viewpoints is the result of conversion, then so long as conversion is still forthcoming, the move to a higher ordered common good of human industry is stifled by that lack of conversion. When a civilization is stratified into sensate, idealistic, and ideational layers, when human community contains primitive, civil and cultural aspects, when individual values range from the aesthetic, to the ethical, to the religious, a common good for human industry remains elusive. The lack of conversion establishes horizons and sets boundaries between communities and among individuals. It actually prevents the achievement of a common economic good.

### ***5.5.2 The Limitation of Effective Freedom***

The reason that a true common good remains so elusive is because it is not always possible to exercise the vertical freedom required for transcending the barriers between communities. The root of the problem lies in the difference between essential and effective freedom.

True judgments of value go beyond merely intentional self-transcendence without reaching the fullness of moral self-transcendence because one can know

what is truly good to do yet still not do it.<sup>132</sup> Although we are essentially free to do as we will, we are not always effectively free to do so. Essential freedom lies in the dynamic structure of rational self-consciousness.<sup>133</sup> It is an intrinsic property of acts of a determinate class. But effective freedom regards the relative frequency of different kinds of acts within the class. Essential freedom is concerned with the manner in which acts occur; but effective freedom asks what acts are to be expected to occur.<sup>134</sup>

The difference between essential and effective freedom is the difference between a dynamic structure and its operational range. Man is free essentially inasmuch as possible courses of action are grasped by practical insight, motivated by reflection, and executed by decision. But man is free effectively to a greater or less extent inasmuch as this dynamic structure is open to grasping, motivating, and executing a broad or a narrow range of otherwise possible courses of action. Thus, one may be essentially but not effectively free to give up smoking.<sup>135</sup>

This raises the possibility of moral impotence. The conditions for exercising effective freedom involve 1) external circumstances, 2) the subject as sensitive, 3) the subject as intelligent, and 4) the subject as antecedently willing.<sup>136</sup> Moral impotence is a restriction of this effective freedom, not in the sense of external circumstances, or psychic abnormality, but in the profound fashion that stems from incomplete intellectual and volitional development.

For complete self-development is a long and difficult process. During that process one has to live and make decisions in the light of one's undeveloped intelligence and under the guidance of one's incomplete willingness. And the less developed one is, the less one appreciates the need of development and the less one is willing to take time out for one's intellectual and moral education.<sup>137</sup>

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<sup>132</sup>Lonergan, *Method*, 37.

<sup>133</sup>Lonergan, *Insight*, 714.

<sup>134</sup>*Ibid.*, 715. Effective freedom supposes essential freedom as statistical law supposes classical law.

<sup>135</sup>*Ibid.*, 643.

<sup>136</sup>*Ibid.*, 645-647.

<sup>137</sup>*Ibid.*, 650.

The moral impotence of the essentially free subject in turn gives rise to an inner tension and ambivalence.

Finally, this consciousness of moral impotence not only heightens the tension between limitation and transcendence but also can provide ambivalent materials for reflection; correctly interpreted, it brings home to man the fact that his living is a developing, that he is not to be discouraged by his failures, that rather he is to profit by them both as lessons on his personal weaknesses and as a stimulus to greater efforts; but the same data can also be regarded as evidence that there is no use trying, that moral codes ask the impossible, that one has to be content with oneself as one is.<sup>138</sup>

As we shall see a little later on, this inner tension and ambivalence caused by moral impotence are reflected and heightened in the social sphere.<sup>139</sup>

### 5.5.3 *The Problem of Liberation*

In short, the problem of liberation lies in the incapacity for sustained development.<sup>140</sup> The elements of the problem are straight forward. Intelligence, reasonableness, and willingness 1) proceed from a detached disinterested, unrestricted desire to know, 2) are potentialities in process of development towards a full effective freedom, 3) supply the higher integration for otherwise coincidental manifolds on successively underlying psychic, organic, chemical, and physical levels, 4) stand in opposition and tension with sensitive and intersubjective attachment, interest, exclusiveness, and 5) suffer from that tension a cumulative bias that increasingly distorts immanent development, its outward products, and the outer conditions under which the immanent development occurs.<sup>141</sup>

The inner tension and ambivalence caused by moral impotence divides and disorients cognitional activity by the conflict of positions and counter-

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<sup>138</sup>Ibid. , 650.

<sup>139</sup>Ibid. , 650-651.

<sup>140</sup>Ibid. , 653.

<sup>141</sup>Ibid. , 653.

positions. This conflict gives rise to contrary views of the good of human industry, which in turn make good will appear misdirected, and misdirected will appear good. Here we see the mudslinging and leveling of accusations which so often informs the debates between business interests and environmentalists.

"There follows the confounding of the social situation . . . to provide misleading inspiration for further insights, deceptive evidence for further judgments, and illusory causes to fascinate unwary wills."<sup>142</sup> This confounded social situation is also reflected in the animosity and sometime outright violence with which various factions confront each other on the meaning of sustainable economic development.

As Bernard Lonergan demonstrates, the problem of liberation is radical, for it is a problem in the dynamic structure of cognitional, volitional, and social activity. It is a question of orientation, approach, procedure, method. It affects concretely every issue because it recurs with every use of the dynamic structure.<sup>143</sup> The problem of liberation is permanent because our intelligence, reasonableness, and willingness are still in development, and so long as they are, there remains the tension between our unrestricted desire to know, and our attached interested intersubjectivity.<sup>144</sup> The problem is not primarily social. Revolutionaries can eradicate the old evils of reactionary societies only to have their fresh effort lead to basically the same results because their own efforts arise through the same dynamic structure as the old ones. The problem of liberation is not that we need to find a better more correct philosophy, ethics or human science, nor to set up a benevolent despotism which would force solutions upon

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<sup>142</sup>Ibid. , 653.

<sup>143</sup>Ibid. , 653.

<sup>144</sup>Ibid. , 654.

others<sup>145</sup> The problem is real As Lonergan notes, 'the fourth, fifth, and sixth volumes of Arnold Toynbee's *Study of History*' illustrate abundantly and rather relevantly the failure of self determination, the schism in the body social, and the schism in the soul that follow from an incapacity for sustained development "<sup>146</sup>

#### 5.5.4 *The Cult of 'Sustainable Development'*

As our review of the literature in Chapter One indicates, the problem of liberation has not stopped us from proposing an endless stream of practical solutions for getting around the incapacity for sustained development However, not only do our common sense proposals suffer the biases of the individuals and groups that formulate and implement them, but there is also a limitation imposed by a more general form of bias of common sense.

Accordingly, we can expect that individual decisions will be likely to suffer from individual bias, that common decisions will be likely to suffer from the various types of group bias, and that all decisions will be likely to suffer from general bias<sup>147</sup>

The tendency of group bias is to exclude some otherwise fruitful ideas and to mutilate others by compromise<sup>148</sup> Thus there is created a shorter cycle which turns upon ideas that are neglected by dominant groups only to be championed later by depressed groups However, there is a longer cycle characterized by the neglect of ideas to which all groups are rendered indifferent by the general bias of common sense.<sup>149</sup> General bias of common sense prevents common sense from being effective in realizing ideas that suppose a long view, or that set up higher integrations, or that involve the solution of intricate and disputed issues That is to say, common sense is unequal to the task of thinking on the level of history

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<sup>145</sup>Ibid , 654

<sup>146</sup>Ibid , 655

<sup>147</sup>Ibid , 651

<sup>148</sup>Ibid , 251

<sup>149</sup>Ibid , 252 Insight, proposal, action, new situation, and fresh insight is a cycle. Ibid. 251



The challenge of history is for man progressively to restrict the realm of chance or fate or destiny and progressively to enlarge the realm of conscious grasp and deliberate choice. Common sense accepts the challenge, but does so only partially. It needs to be guided but it is incompetent to choose its guide. It becomes involved in incoherent enterprises. It is subjected to disasters that no one expects, that remain unexplained even after their occurrence, that can be explained only on the level of scientific or philosophic thought, that even when explained can be prevented from recurring only by subordinating common sense to a higher specialization of human intelligence.<sup>150</sup>

General bias of common sense not only omits the longer view, and/or the higher integration because they fall outside the realm of the practical. It rejects them outright.<sup>151</sup>

A major implication of the longer cycle brought about by the general bias of common sense is a succession of lower viewpoints. The disregard of good ideas not only excludes their implementation but also deprives subsequent stages both of further ideas to which they would give rise and the corrections that they and their successors would bring to the ideas that are implemented.<sup>152</sup>

Consequently, the social situation can deteriorate cumulatively.<sup>153</sup> There is a mounting irrelevance placed upon detached and disinterested intelligence. This generates an increasingly significant residue that 1) is immanent in the social facts, 2) is not intelligible, yet 3) cannot be abstracted from if one is to consider the facts as in fact they are. This residue is the social surd.<sup>154</sup> On the level of common sense, the surrender of detached and disinterested intelligence is minor; people of practical common sense 'become warped by the situation in which they live, and regard as starry-eyed idealism and silly unpracticality any proposal that

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<sup>150</sup>Ibid. , 253.

<sup>151</sup>Ibid. , 253.

<sup>152</sup>Ibid. , 254.

<sup>153</sup>Ibid. , 254.

<sup>154</sup>Ibid. , 255, 711.

would lay the axe to the root of the social surd."<sup>155</sup> On the theoretical level, this surrender is major, for it is radical rejection of the normative significance of detached disinterested intelligence.<sup>156</sup> The major surrender results in the development of a new culture, a new religion, a new philosophy that are radically uncritical. The lack of critical capacity results in the inability to distinguish between social achievement and the social surd. It results in the subordination of human science to the biased intelligence of those that produce the data. Eventually the major surrender leads to cumulative deterioration, for successively increasing levels of instability and insecurity in the new culture, religion and philosophy are brought about because each new arrival has to keep bolstering its convictions by attacking and denouncing its predecessors.<sup>157</sup>

We can often see this downward spiral today in certain aspects of the debate over human industry. For instance some who would subscribe to the market form often reject the regulation of economic cycles (warranted from the economic perspective) as an impractical intrusion upon exchange; instead they would subscribe to laissez-faire 'economics' that would let the vagaries of the market determine where the chips may fall. Development to the economic form is rejected as impractical. Likewise, some who would subscribe to the economic form would reject the ecologist's concern with rain forest devastation or ozone depletion as impractical intrusions upon capital circulation; instead they would insist on trying to internalize these as economic costs, or perhaps suggest we future discount them, or better yet, that we should just ignore the problems and let future generations pick up the pieces. Development to the ecological form is rejected as impractical. Those who would subscribe to the ecological form are not

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<sup>155</sup>Ibid. , 255.

<sup>156</sup>Ibid. , 255.

<sup>157</sup>Ibid. , 256

immune either. Because of general bias some here would reject the marketer's and the economist's respective concerns with human welfare and wealth as impractical intrusions upon the project of making ecologies resilient. Instead they too would take the low road and insist that a humanity which has become the curse of a planet does not deserve to care about its own welfare or wealth. Market and economic exigencies are rejected as impractical. In short, any form of development of human industry will succumb to the effects of general bias, declare itself the only practical solution, and reject the proposed long term solutions of others as impractical dreaming. The major surrender brings to light the succession of ever less comprehensive viewpoints. The succession of less comprehensive viewpoints has been a succession of adaptations of theory to practice. In the limit practice becomes a theoretically unified whole, and theory is reduced to the status of a myth that lingers on to represent the frustrated aspirations of detached and disinterested intelligence.<sup>158</sup>

Consequently, there will be an underlying opposition that general bias sets up between the decisions that intelligence and reasonableness would demand and the actual individual and common decisions that are made.

For this opposition is both profound and unnoticed. As individuals, so societies fail to distinguish sharply and accurately between positions and counter-positions. As individuals, so societies fail to reach the universal willingness that reflects and sustains the detachment and disinterestedness of the unrestricted desire to know. More or less automatically and unconsciously, each successive batch of possible and practical courses of action is screened to eliminate as unpractical whatever does not seem practical to an intelligence and a willingness that not only are developed imperfectly but also suffer from bias. But the social situation is the cumulative product of individual and group decisions, and as these decisions depart from the demands of intelligence and reasonableness, so the social situation

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<sup>158</sup>Ibid. , 256- 257.

becomes, like the complex numbers, a compound of the rational and irrational<sup>159</sup>

The failure to grasp the problem of human liberation and to understand the negative impact of individual, group, and general bias on common sense versions of 'economic development,' has led to a phenomenon that Lonergan calls the cult of progress wherein development has come to imply some perfection that belongs to the future.<sup>160</sup> Present shortcomings are seen as temporary setbacks to be alleviated at some later point in time. Present successes are seen to be glimpses of the perfection to come once the appropriate revisions in method are made and once we attain for ourselves a more perfected level of personal and social development. Perhaps the cult of progress, as it pertains to human industry, has its clearest articulation in the Brundtland Report and its position that the essence of sustainable economic development has something to do with the impact of the present on future generations. But we glimpse it in other versions of 'sustainable development' as well. It is the cornerstone upon which is built a whole theory of rights to the future, to the unknown. It takes on mythical proportions in uncritical quasi-religious discussion. It is the hope behind every critique of our destruction of the environment and every dream to re-create a pristine and virgin landscape. If there is evidence for the cult of progress, there seems to be similar evidence that it has found a voice in the more particular cult of 'sustainable development.' Indeed, every common sense version of 'development' subscribes to the cult of progress insofar as it is void of any authentically theoretically differentiated grasp of development.

There is little wonder that, in the midst of environmental destruction, poverty, economic disparity, starvation, child labour, and the fears of worse to

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<sup>159</sup>Ibid., 651.

<sup>160</sup>Ibid., 710.

come, we need to reaffirm the thesis of the cult of progress and the cult of 'sustainable economic development.' The thesis of 'sustainable economic development' implies a happy contrast with the past failures to sustain much. It admits that the present is ever a pattern of lags but it holds out fresh hope that the knowledge to guide our living, the willingness to follow the knowledge, the sensitive adaptation that executes the will's decisions, belongs to the future. But the hope submitted by the cult of 'sustainable development' fights a losing battle against a succession of ever less comprehensive syntheses effected under the pall of the social surd. It requires a vast accumulation of direct and inverse insights and a long series of judgments of truth and value that are constantly thwarted by the threefold bias of the practical subject.<sup>161</sup> In short, the cult of 'sustainable economic development,' which would argue from the fact of economic development to belief in automatic and inexorable economic progress, sidesteps the problem of liberation.

Had that implication of present shortcomings not been overlooked with such abandon, had the apostles of progress not mistaken their basic views for premature attainments of future perfection, then the disillusionment of the twentieth century could hardly have been at once so unexpected, so bitter, and so complete.<sup>162</sup>

#### 5.5.5 *Summary*

Moral impotence is a restriction of effective freedom due to incomplete intellectual and volitional development. The moral impotence of the essentially free subject gives rise to an inner tension and ambivalence which increasingly distorts immanent development, its outward products, and the outer conditions under which the immanent development occurs. There follows the confounding of the social situation that is reflected in the animosity and sometimes outright

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<sup>161</sup>Ibid. , 712.

<sup>162</sup>Ibid. , 710.

violence with which various stands are taken on the meaning of sustainable economic development. The problem is radical, permanent, independent of underlying manifolds, and not primarily social. The problem is very real.

Despite the possibility of achieving a common economic good through intellectual and moral conversion, the problem of liberation presents us with an insurmountable obstacle. The failure to grasp the problem of human liberation, to understand the negative impact of individual, group, and general common sense bias on development of human industry has led to the cult of 'sustainable economic development.' It would sidestep the problem of liberation and argue from the fact of economic development to belief in automatic and inexorable economic progress.

The probability of achieving a common good of human industry is gravely effected by the problems of human liberation and the influence of the general bias which would argue for the cult of 'sustainable economic development.' In the end, we are engaged in developing, in going beyond what happens to be, but in doing so we are perpetually "confronted both with man's incapacity for sustained development and with his need to go beyond the hitherto considered procedures of his endeavor to go beyond."<sup>163</sup>

## 5.6. Religious Conversion

This final section discusses of our dissertation discusses how the theological notion of redemption presents us with an intelligible solution to the problem of our radical incapacity for sustained development and our need to go beyond the hitherto considered procedures of our endeavor to go beyond.

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<sup>163</sup>Ibid , 659

### 5.6.1 *The Need for Redemption*

From the humanist perspective, the problem of liberation is to be solved by finding a better philosophy, ecological ethics, or economics science, or perhaps by setting up some benevolent despotism which would force solutions upon others. However, philosophy is affected by the dialectical opposition between positions and counter-positions originating in the tension between our intersubjectivity and our desire to know. To the extent that development of such a philosophy has concrete and practical implications, the dialectical opposition will also affect conflict within our wills. And since will is good by its conformity to intelligence, the failure of the intellect to develop entails the failure of the will. The humanist solution to the problem of liberation (and hence to ensuring progress) is in jeopardy, therefore, not only because there are the problems of poor understanding and erroneous judgment, but because there is the fact of our bad will.<sup>164</sup>

And bad will can be considered as sin. As Lonergan noted, sin is not only a category of theological and religious thought; both Marx and Nietzsche railed against it.<sup>165</sup> It is the failure of free will to choose a morally obligatory course of action or a failure to reject a morally reprehensible course of action. It is the root of the irrational in man's rational self-consciousness.<sup>166</sup> It is a failure of occurrence, the absence in the will of a reasonable response to an obligatory motive.<sup>167</sup> But it is more than that for the Christian.

Bad will is not merely the inconsistency of rational self-consciousness; it is sin against God. The hopeless tangle of the social surd, of the impotence of

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<sup>164</sup>Lonergan, *Insight*, 714-15

<sup>165</sup>Lonergan, *Topics In Education*, 58.

<sup>166</sup>Lonergan, *Insight*, 689. A course of action is morally obligatory insofar as there is consistency between knowing and doing. An obligation is the emergence of a rational necessity in rational consciousness. *Ibid.*, 637. See also note # 33.

<sup>167</sup>Lonergan, *Insight*, 690. Sin is not an event.

common sense, of the endlessly multiplies philosophies, is not merely a *cul-de-sac* for human progress; it also is a reign of sin, a despotism of darkness; and men are its slaves.<sup>168</sup>

Perhaps Marx and Nietzsche represent supreme examples of the humanist attempt to overcome sin. Nevertheless, whether by erecting a utopic new age or by giving free reign to the free wills of supermen, the construction of any version of automatic progress is ultimately a denial of the permanence of the problems created by sin; it is an illusory version of redemption.<sup>169</sup> From the Christian perspective, however, no such illusions are held about any redemptive role of the cult of progress. The moral impotence which leads to a failure in sustaining development of human industry is regarded not as a temporary restriction of effective freedom, rather it is judged to be the perpetual and absolutely permanent incapacity of humanity to avoid sin. For Christians, the fact of real development in human industry, despite the repeated failures of the cult of progress and in the face of this overwhelming incapacity to avoid sin, is proof enough of God's operative grace in our world.<sup>170</sup>

### 5.6.2 *Hope*

Grace grounds our hope. As Lonergan notes, operative grace is religious conversion.

Operative grace is the replacement of the heart of stone by a heart of flesh, a replacement beyond the horizon of the heart of stone.

Religious conversion is to a total being-in-love as the efficacious ground of all self-transcendence, whether in the pursuit of truth [i.e. through intellectual conversion], or in the realization of human values [i.e. through moral conversion], or in the orientation man adopts to the universe, its ground, and its goal.<sup>171</sup>

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<sup>168</sup>Ibid. , 714.

<sup>169</sup>Lonergan, Topics in Education, 66.

<sup>170</sup>Ibid. , 64.

<sup>171</sup>Lonergan, Method, 241.



In the words of Paul Tillich, religious conversion is being grasped by ultimate concern. It is other-worldly falling in love. It is total and permanent self-surrender, not as an act, but as a dynamic state that is prior to and principle of subsequent acts.

It is revealed in retrospect as an undertow of existential consciousness, as a fated acceptance of a vocation of holiness, as perhaps an increasing simplicity and passivity in prayer. . . For Christians it is God's love flooding our hearts through the Holy Spirit given to us.<sup>172</sup>

### 5.6.3 *Charity*

Charity is grace. Cooperative grace is the effectiveness of religious conversion; it is the heart of flesh becoming effective in good works through human freedom.<sup>173</sup>

Finally, against sin as self-perpetuating, as a chain reaction, there is love of one's enemies and the acceptance of suffering. Sin as a chain reaction has two bases. It has a basis first in the hearts of men, where sin leads to ever further sin insofar as hatred arises. But Christ teaches us, 'Love your enemies, do good to them that hate you.' Secondly, there is a chain reaction of sin in the logic of the objective situation, and against that aspect Christianity teaches the acceptance of suffering. 'The servant is not better than his master.' 'Do not resist evil, but overcome evil with good.' The acceptance of suffering puts an end, at least at one point, to the chain reaction of sin that spreads throughout a society. When everyone is dodging suffering, when no one accepts it, the burden is passed ever further on.<sup>174</sup>

### 5.6.4 *Faith*

Grace grounds our faith. Beliefs result from judgments of value, and the judgments of value relevant for religious belief come from faith.<sup>175</sup> Without faith the originating value is man and the terminal value is the human good man brings about. Without faith, 'sustainable economic development' is the creation of the City of God. But in the light of faith, originating value is divine light and

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<sup>172</sup>Ibid. , 240-241.

<sup>173</sup>Ibid. , 240-241.

<sup>174</sup>Lonergan, Topics in Education, 68.

<sup>175</sup>Lonergan, Method, 119.

love, while terminal value is the whole universe. With faith, sustainable development of human industry is the creation of the City of God. The human good becomes absorbed in an all-encompassing good.<sup>176</sup>

For the Christian, faith becomes the fundamental answer to the problem of sin, and hence the only source of any sustained development. It is the re-establishment of truth as a meaningful category, it is the liberation of intelligence and reason.<sup>177</sup>

### 5.6.5 *Summary*

For the Christian, the moral development required for overcoming the problem of liberation, and hence for establishing some form of sustainable development of human industry is through repentance for our sins.<sup>178</sup> And repentance for sins involves not moral conversion, not intellectual conversion, but religious conversion. For the Christian, the solution to the problem of the cult of sustainability becomes actually operative through the conjugate forms of faith, hope and charity.<sup>179</sup>

Moreover, for the Christian, the expression of the virtues of faith, hope, and charity is found in the persons of the Trinity.

Redemption in Christ Jesus is the answer to the problem created by sin as a component in social process and as fundamental aberration, but it has not merely a negative office. It comes through the grace of our Lord Jesus Christ, through a personal communication of the life of the ever Blessed Trinity to mankind. 'In the fullness of time, God sent his Son, born of woman, made under the law, that those who were under the law might be redeemed and receive the adoption of sons. And now that you are sons, to show that you are sons, he sent the Spirit of his Son into our hearts, crying, "Abba, Father!" ' (Galatians 4. 4-6). The mission of the Son and the mission of the Holy Ghost is the basis of a new society in Father, Son, and Holy Ghost, in which there is

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<sup>176</sup>Ibid. , 116.

<sup>177</sup>Loneragan, Topics in Education, 67.

<sup>178</sup>Loneragan, Method, 110.

<sup>179</sup>Loneragan, Insight, 750.

communicated to us personally, through the person of the Son and through the person of the Spirit, a participation of divine perfection, a participation of the order of truth and love that binds the three persons of the Blessed Trinity.

The process of redemption, then, as conceived by the Catholic, is first of all the radical answer to sin - not the answer to sin that eliminates sin, but the answer to sin that endures its consequences and nullifies them and transforms man into a child of God, with a participation in the sonship that God the Father acknowledged when Jesus was baptized at the Jordan: 'This is my beloved Son Hear ye him.'<sup>180</sup>

Religious conversion sublates moral, and moral sublates intellectual: not in Hegel's sense, but in Rahner's, where sublation is the introduction of something new yet still includes and requires what was sublated. So moral conversion goes beyond the value called truth (discovered in intellectual conversion), to values generally. It promotes the subject from cognitional to moral self-transcendence. Religious conversion goes beyond moral. While moral conversion reveals one's the capacity and desire for self-transcendence because it establishes one as an originating value, religious conversion transforms the existential subject into a subject in love, other-worldly-in-love. Religious conversion is not just a more efficacious ground for the pursuit of intellectual and moral ends; it is religious loving without qualification or limitations. In the Christian it is being in love with a mysterious, uncomprehended God.<sup>181</sup>

It is not to be inferred that because of sublation, intellectual conversion comes first, and then moral, and finally religious conversion. On the contrary, from a causal point of view, one would say that first there is God's gift of love. Next the eye of this love reveals values in their splendor, while the strength of this love brings about their realization, and that is moral conversion. Finally among the values discerned by the eye of love is the value of believing truths.<sup>182</sup>

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<sup>180</sup>Loneragan, Topics in Education, 68.

<sup>181</sup>Loneragan, Method, 241-242.

<sup>182</sup>Ibid., 243.

### 5.7. Conclusion

The aim of this chapter has been to demonstrate that truly sustainable development of human industry requires a transformation of the subject which goes beyond the capacity of the subject to effect because of the problem of liberation. In the first part I defined the transformation of the subject as conversion. In the second part I showed that the differentiation of operations and objects necessitates a differentiation in the consciousness of the operating subject, but that the various myths concerning reality, objectivity, and human knowledge fail to acknowledge this concomitant and complimentary differentiation in the consciousness of the operating subject. This failure is a lack of intellectual conversion and it leads to an incapacity to formulate a coherent and differentiated theory of sustainable development. The third part looked at the role of moral conversion in development of human industry. I suggested that the shift from satisfactions to value is not a result of economic transformation, but a source of such transformation. Only by becoming a rationally self-conscious subject, only upon moral conversion, can the good of human industry and the good of its development develop. The fourth section showed that intellectual and moral conversion offers us a basis for expanded economic cooperation and affords the possibility for developing a common good for human industry. The next to last section explored how the problem of human liberation confronts us with a radical incapacity for sustained economic development, and thereby thwarts our efforts at achieving a common good. The final section discussed how the Christian theological notion of redemption presents us with an intelligible solution to this problem.

Ultimately, a solution to the problem of liberation must transcend our fixation on the cult of sustainable economic development. It must transcend the

various common sense versions of the economic good, not by declaring any one more coherent than any other, or by denouncing one over another, but by understanding their coherence when taken together. The solution must not pit one community against the next, but must bridge the gulf between communities and allow them to achieve a common meaning. It must provide a common field of experience, a common understanding, a common set of judgments. The solution will take human community not just as a primitive intersubjective tribe or nation, nor simply as a civilization, but as a cultural community. It will require of its members that they place value above satisfaction, and thus move from the aesthetic sphere, through the ethical, towards the religious. The modalities of such self-transcendence will be intellectual, moral, and religious conversion.<sup>183</sup> We can safely expect the task of conversion to be lifelong.<sup>184</sup> And we will not have ourselves to thank for it where and when it occurs.

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<sup>183</sup>Ibid , 241 Lonergan, Insight, 338

<sup>184</sup>Lonergan, Method, 118

## CHAPTER SIX

### CONCLUSION

Let us first briefly retrace our steps and recaptured the broad lines of our arguments. With that accomplished, let me end with several suggestions for further research.

#### 6.1. Summary

##### 6.1.1 *When Worlds Collide*

The first chapter established the state of the question which was to become the focus our study. Through a review of the literature, I tried to show how the question of sustainability arose out of the shortcomings of successive theories and practices of economic development. I noted that behind the major versions of human economic development there remains an assumption that economic development somehow ought to be inexorable in the long run. This hope, despite repeated failures, frustrations and accumulating evidence to the contrary, provided us with a clue as how to approach the question of sustainable development from a theological perspective.

I noted that the quest for relentless economic growth and market expansion has given rise to concern not only about our methods of achieving such growth and expansion, but about the validity of our expectations and desires behind those methods. Resource scarcity and environmental degradation have raised questions concerning limitations to the doctrine of economic growth.

We are confronted with a central question: Can we sustain development of human industry?

From the literature we discovered that there are divergent and often conflicting responses to our desire for inexorable development. The solution is cast in terms of an economics problem, a moral problem about the good of economic activity, or as an essentially theological question about transcendence. While many of the approaches have strong explanatory foundations, still we see that they are a mixture of practical common sense and theory. Consequently, the common sense notions of sustainable economic development of one community are not readily transportable to another community. As each version gives its own interpretation of sustainable economic development, problems will no doubt arise when those interpretations clash with other versions. Horizons between communities tend to become frontiers, and the frontiers demarcate certain points of collision, as it were, between diverging world views. So long as sustainable economic development remains dominated by a community's common sense understanding, it will predominantly serve to guide the pragmatic decisions and efforts of whatever that community chooses to sustain economically. I have argued that this is the very source of conflict and a major factor in our inability to find a lasting solution to the problem of sustainable economic development.

In short, we hope for sustainable economic development, but common sense approaches remain at odds with one another. This conclusion set the goal of the dissertation. I sought to move toward a more fully explanatory version of sustainable economic development.

### 6.1.2 *Forms*

In general terms, the first step in achieving our goal was to perform a critical explanatory differentiation. I chose to concentrate on distinguishing forms because so much of the literature speaks about sustainable economic development in terms of economic transformation, yet it remains quite foggy about the meaning of transformation and the object of such an act. I insinuated that the literature speaks about human industry from three aspects, and that if we differentiate between these aspects, we can distinguish three distinct explanatory forms; market, economic, and ecological. Human industry, taken from the aspect of market events, involves the aggregates of events that occur in the world of transactions and exchanges. Taken from the aspect of economic events, it involves the systematic relationships of aggregates of aggregates of economic events that include, but go beyond, moments of exchange. Taken from the aspect of ecological events, it involves market and economic events and the environment within which they occur.

I based the explanatory differentiation of the forms on the philosophy of Bernard Lonergan. My premise was that what is observed, what is grasped, what is formulated, and what is verified is quite different depending on whether one is speaking in terms of market events, economic events, or ecological events. Formulations are either in terms of experiential conjugates or explanatory conjugates, and both experiential and explanatory conjugates lead to a consideration of data only from some abstractive viewpoint. Because we are therefore forced to prescind from whole ranges of data as a result of abstracting, we are thereby confined to making descriptions and formulating explanations that are limited in aspect.



What is empirically verified through experiential and explanatory conjugates are the schemes of recurrence associated with market, economic, and ecological events. 'Exchange' was the term used to explain the schemes of recurrence associated with human industry as understood in terms of the experiential and explanatory conjugates that are formulated based on insights into the relations of aggregates of market events. 'Circulation' was the term used to explain the schemes of recurrence associated with human industry as understood in terms of the experiential and explanatory conjugates that are formulated based on insights into the relations of aggregates of economic events. 'Ecology' was the term used to explain the schemes of recurrence associated with human industry as understood in terms of the experiential and explanatory conjugates formulated based on insights into the relations that occur within flexible circles of ranges of schemes of recurrence of events.

The next step in the study was to show that there is the possibility of distinct sets of conjugates in which there is no transition from one system to another. As one moves from one set of conjugates to the next, there is added a new set of laws which defines its own basic terms by its own empirically established correlations. Thus the different experiential and explanatory conjugates employed to describe and explain market events, economic events, and ecological events, give rise to distinct sets of market conjugates, economic conjugates and ecological conjugates. To argue, as I have, that a market, an economy, and an ecology are each to be considered from distinct viewpoints is to argue that at each level there is a set of conjugates and a left over aggregate of events not explained by those conjugates that is, nevertheless, explained when one considers the aggregate from a next more comprehensive viewpoint. I

concluded that the explanatory conjugates formulated in terms of market events, economic events, and ecological events, seem to form a hierarchy.

Systematically recurring events that remain coincidental when considered from the aspect of the lower conjugate form necessarily imply a higher conjugate form. If one can reasonably admit systematically occurring economic events then one must declare the market form to be insufficient, for there is an information upon the market conjugate acts, or events, by a higher-ordered conjugate form we have named the economic form. Furthermore, if one admits systematically occurring ecological events then one must declare the market form and the economic form to be insufficient alone, for there is an information upon the economic conjugate acts by a higher-ordered conjugate form we have called an ecological form. The review of the literature and the examples showed that we do indeed verify market, economic and ecological events, or conjugate acts. In its ontological aspect this is equivalent to verifying market, economic and ecological conjugate forms. In conclusion of the chapter, I stated that insofar as there is the possibility of a hierarchy of viewpoints, as noted above, there is an equivalent possibility of a hierarchy of forms of human industry.

### 6.1.3 *The Good*

The third chapter filled out the ethical implications of this hierarchy of forms, and thereby sought to differentiate between various versions of the good so prevalent in the literature on human industry. The premise was that what we find good about human industry depends upon our understanding of the form of that activity. Relying once again on the work of Bernard Lonergan, I began by showing an isomorphism between knowing, being, and the good. I made three conclusions. Firstly, experience, potency, and the particular good are in correspondence. Secondly, understanding, form, and the good of order are in

correspondence. And thirdly, judgment, act, and value are in correspondence. I then related the three aspects of proportionate good. The particular good is the object of appetite at an elementary level. Whenever there is a regular recurrence of particular goods, there is an intelligible good of order behind it. Whenever a particular good or the good of order behind it becomes an object of rational choice, there is the good as value.

The next step was to determine the versions of the good of human industry, as differentiated into the three forms of the market, economy, and ecology. I said that market exchange has as its function the regular acquisition of things and services to be utilized in service of human welfare. Stock acquisition is the particular good of the market, exchange is the good of order which makes regular the achievement of this particular good, and the value associated with making these two aspects of the good objects of rational choice is welfare. The circulation of capital has as its function the regular accumulation of profits to be obtained in service of generating wealth. Profit is the particular good of the market, circulation is the good of order which makes regular the achievement of this particular good, and the value associated with making these two aspects of the good objects of rational choice is wealth. An ecology has as its function the provision of resiliency against perturbations in service of maintaining health. Stability is the particular good of the ecology, an ecology is the good of order which makes regular the achievement of this particular good, and the value associated with making these two aspects of the good objects of rational choice is wealth. (See summary, Table 6-1).

Table 6-1 Economic forms of the good

| Economic Form | Particular Good | Good of Order | Value   |
|---------------|-----------------|---------------|---------|
| Market        | Stock           | Exchange      | Welfare |
| Economy       | Profit          | Circulation   | Wealth  |
| Ecology       | Stability       | Ecology       | Health  |

I also indicated that one aspect of the proportionate good seems to dominate over the others, depending on the form under consideration. The market seems to be dominated by a primary focus on the particular good of stock acquisition. It would seem that the good of order of circulation is the dominant aspect of the proportionate good at the level of the economic form, and that the ecological perspective on sustainable development has value as its dominant aspect of the proportionate good.

#### 6.1.4 Transformation

Chapter Two and Chapter Three provided us with the needed background for understanding the meaning and significance of economic transformation as it is advocated in the literature. In Chapter Four I used this as a basis for differentiating between common sense forms of development in terms of the aspects of the proportionate good. We discovered that the conjugate form or combination of conjugate forms understood and affirmed to be the real form of human industry determine our common sense understanding of the meaning of 'economic development.' See Table 6-2 for a summary of these points.

Table 6-2 Common sense versions of 'development'

| Development | Particular Good | Good of Order | Value      |
|-------------|-----------------|---------------|------------|
| Market      | Convenience     | Proliferation | Expansion  |
| Economic    | Profit          | Acceleration  | Growth     |
| Ecological  | Persistence     | Accommodation | Epigenesis |

In the second section I noted that real development of human industry involves the radical transformation from the market, to the economic, to the ecological conjugate forms. At the cognitional level this is the move to a higher-order understanding. At the ontological level it is the emergence of new conjugate form. At the level of the good it is a shift from the particular good to value.

In the third part I defined development of human industry. A development was defined as flexible, linked sequence of dynamic and increasingly differentiated higher integrations that meet the tension of successively transformed underlying manifolds through successive applications of the principles of correspondence and emergence. Accordingly, development of human industry was defined as the flexible linked sequence of market conjugate form, economic conjugate form, and ecological conjugate form.

The fourth part of the study focused on operators. I concluded that the radical transformation of concepts and postulates named the higher viewpoint, is effected by the operations of operators, and that it is through discovery of these operators and their operations that concrete instances of development of human industry are to be studied. I found that the emergence of each form of 'development' is in direct response to the shortcomings of the lower form of 'development.' Thus the higher system is provoked from the midst of the lower.

It immediately reconciles the ironies, contradictions and problems of the lower integration by successive applications of the principles of emergence and correspondence, only to be replaced for similar reasons. The successive transformations lead to a more differentiated and systematic account of the inadequacies raised by the very operations involved in the lower viewpoint. Whether valuing market expansion, economic growth, or ecological epigenesis, it appears that that form of 'development' is unsustainable from within the context of its own explanatory conjugates. At the market level the problem of capital scarcity raises the question Is output sustainable? At the economic level the problem of capital circulation deceleration raises the question Is input sustainable? Each successive level is rendered unstable and provocative of the next because it cannot adequately account for a coherent form of sustainability, or negatively, for the fact of unsustainability. This provocative role suggests that the general problem of sustainability is the source of differences that transforms human industry from its market form, to its economic form, to its ecological form. The conflict between versions of 'development' may be only apparent because there is correspondence between their respective operators insofar as they all implicitly contain some version of the notion of sustainability. Expansion has an implicit operator insofar as the problem of stock scarcity is the relevant classification of the notion of sustainability that is related to the next level of development. And growth has an implicit operator insofar as the problem of capital circulation deceleration is the relevant classification of the notion of sustainability that is related to the next level of development. Therefore the notion of sustainability seems to relate the relevant classifications of one level of 'development' to the relevant classifications of the next. Ironically perhaps, the source of our development of human industry comes from our very incapacity to

move to higher viewpoints without being confronted by the inadequacies of the reigning lower version of 'development!'

In the final section I observed that the notion of sustainability is linked to an underlying principle that renders the various versions of 'development' quite compatible after all. Behind the various meaning given to sustainability, there is an underlying heuristic notion. Because of the successive different explanations of sustainability, there is formed a heuristic structure. The object of that structure, the unifying principle in the series of explanations, is the heuristic concept I have called sustention. Sustention is not an expression of the content of understanding; it is the unifying principle behind the series of successive explanations. Once it is grasped that sustention is a heuristic concept and not an implicit explanatory concept, we come to understand that the various versions of 'sustainable economic development' are inextricable, insofar as they function in succession to reveal the unifying principle behind all development of human industry. If we are to claim that any kind of development is sustainable, then we are in essence claiming that that kind of development is capable of relentlessly transforming the human economy to successively higher, more fully differentiated viewpoints. But as I remarked, it is one thing to hope for such sustained development, and quite another to claim its arrival.

#### **6.1.5 *Conversion***

In the final chapter of the dissertation, I have argued that economic transformation is possible only to the extent that conversion (i.e. transformation of the subject) occurs.

Through the cognitional operations, the human subject becomes an operator involved in the development of human industry. It was argued that any coherent differentiation of operations and objects in human industry necessitates

a differentiation in the consciousness of the operating subject. However, there is a myth concerning reality, objectivity, and human knowledge, which fails to acknowledge this concomitant and complimentary differentiation in the consciousness of the operating subject. Consequently, so long as such intellectual conversion is incomplete, the explanatory power of any theory of sustainable development is restricted.

Transformation of human industry also requires moral conversion. Here we turned our attention from the good as terminal value, to the originating value that determines the terminal value. Particular goods and their attendant goods of order were explained as true terminal values only insofar as they originate from an authentic, rationally self-conscious, self-transcendent moral subject. The moral conversion from desire to value, even if value must be chosen at the expense of satisfaction, gives rise to freedom and responsibility.

I then linked the notion of freedom to the horizons which define the boundaries between communities. A vertical exercise of freedom was defined as the set of judgments and decisions by which we move from one horizon to another. The three Kierkegaardian spheres of existential subjectivity were equated with Lonergan's horizons. We said that the boundaries of horizons vary with the presence or absence of conversion, and that conversion is never the logical consequence of one's previous position. It is a radical revision of that position. Insofar as conversion can involve not only individuals, but whole communities, societies, and cultures, the transformations wrought by such conversions effectively delineate the boundaries of communities. Worlds collide because of the ambiguity surrounding our conversion. In light of this, transformation and development of human industry were cast as cooperative and collaborative efforts that depend on the conversion of communities of



subjects who, by their collective conversion, transcend barriers between men and women of good will.

Because of the community aspect of intellectual and moral conversion, the kind and degree of conversion determines in part the kind and degree of common good envisaged by a society. While the possibility of conversions indicate that our hope for inexorable development of human industry is justified, it does not automatically imply a strong probability of achieving it.

Unfortunately, the probability of achieving the common good of real development is gravely effected by the problem of human liberation. As I noted, the two major influences on decline are 1) the limitations of effective freedom, and 2) the influence of general bias on common sense. Bernard Lonergan explained rather convincingly that the developing subject always has to live and make decisions in the light of one's undeveloped intelligence under the guidance of one's incomplete willingness.<sup>1</sup> This moral impotence, or restriction of effective freedom, in turn gives rise to an inner tension and ambivalence. The problem of liberation lies in the incapacity for sustained development. The tension of a cumulative bias increasingly distorts immanent conversion and outward transformation of human industry. The failure to grasp this problem of human liberation, and to understand the negative and permanent impact of bias on development, has led to the cult of 'sustainable economic development.' The critical error here is to sidestep the problem of liberation and argue from the fact of development of human industry to belief in automatic and inexorable progress. The cult of 'sustainable development' would see the problem of liberation as a temporary setback to be corrected at some future time once previous oversights are over turned and previous bad judgments are revised.

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<sup>1</sup>Lonergan, *Insight*, 650

But the problem of liberation is not just a matter of poor understanding and bad judgment, it is a matter of bad will. It is a matter of sin. Redemption of the declining situation is beyond the scope of the visionaries of progress, not because they will probably fail to arrive at the appropriate insights, or probably fail to make the correct judgments, but because they will probably refuse to do the reasonable and responsible thing even when it is discovered and rationally affirmed. In short, redemption, or freedom from the problem of human liberation, is not to be found immanently in the human condition.

Perhaps strangely for some, the fact of real development in human industry would indicate that, despite the repeated failures of the cult of progress and the overwhelming incapacity to avoid sin, the declining situation is nevertheless redeemed. But how so if not by us? The hopeless tangle of the social surd, the impotence of common sense, the reign of sin can be overcome by enduring the consequences of decline and by nullifying them. But the capacity to endure requires efforts and habitual achievements beyond the capacity of human virtue. It requires of us a willingness to forgive our own bad will, using a will that will probably refuse to forgive. It requires us to place hope in some vague cause which has constantly redeemed our repeated failures at progressing on our own. It requires us to believe in an originating value other than ourselves, one responsible for the terminal values which constantly unfold to offset the disvalues stemming from our own unliberated wills. In short, the capacity to endure and to nullify the effects of our own sin requires a sustained faith, hope and charity that we could never achieve for ourselves.

For the Christian, the persistence of faith, hope, and charity is evidence of grace. Grace, operative through the conjugate forms of the theological virtues, reestablishes truth as a meaningful category. It admits the requirement of

religious conversion, and it permits the effectiveness of religious conversion through cooperative grace.

## 6.2. Conclusion

We may make five major conclusions stemming from our study of human industry.

- 1) There is a need for an explanatory account of sustainable development of human industry that can transcend the boundaries between communities and render current approaches effective and congruent.
- 2) There is a hierarchy of forms of human industry.
- 3) The forms of good range from satisfaction of desire to the rational selection of objects of choice.
- 4) Sustainable development of human industry is relentless and infinite transformation of human industry to successively higher, more fully differentiated forms.
- 5) Sin distorts immanent conversion and outward transformation, making sustainable development impossible without the redemptive work of God's operative grace.

## 6.3. Suggestions

Before we close off this study of human industry, I would like to make a few suggestions for further research. Like most journeys, this one has confronted me with many choices. At every turn in the road it seems that I could have chosen many alternative and equally interesting routes. But alas, while I have had to postpone those itineraries until another trip, still I have left some trail-markers along the way. If I were to embark upon this exploration once again, I

would be tempted to stray off the now familiar path, not hesitating to take my mark at any one of the following signposts.

**1) Determine the meaning of money.**

I think that the lack of differentiation of the meaning of human industry may also have led to a conflated understanding of the meaning of money. Research for this dissertation has led me to believe that the meaning of money, taken as capital, may have become conflated. Perhaps money can be understood in terms of three forms as well. In terms of the market form of human industry, it appears to function as a standard of value, and a medium of exchange in the acquisition of stocks. In terms of the economic form of human industry, it seems to function as a catalyst for the reactions between monetary functions in the circulation of capital. It would be interesting to see if it has an ecological role and redemptive role as well. In any case, it may be worthwhile to compare and contrast the differentiated functions and meanings of money, especially in light of recent the tendency toward a 'cashless' society and the effects of that transition on the good of markets, economies, and culture.

**2) Develop the heuristic concept of sustention.**

As Lonergan notes, "while the identity of the heuristic concept forms the unifying principle in a series of successive explanations, still there can be a development in heuristic concepts themselves."<sup>2</sup> In our case, this would be development of the heuristic concept of sustention. The discovery of the various versions of sustainable 'development' all envision sustention, but what does the development of the concept of sustention entail and imply about the meaning of human industry?

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<sup>2</sup>Lonergan, *Insight*, 759.

### 3) Determine appropriate methods for studying development of human industry.

It has been observed that ecological economics involves a change in emphasis from quantitative to qualitative dimensions. Perhaps a new set of corresponding indicators and methodologies is needed.<sup>3</sup> Richard Norgaard, in "The Case for Methodological Pluralism" backs this observation.<sup>4</sup> As Robert Heilbroner said, "economics is the language we use to talk about the workings and options of our system, but it is not the language in which we appraise the value of the system or decide what elements to preserve or change."<sup>5</sup> Kenneth Boulding also saw the emergence of the so-called 'positive science of economics' as a methodological abandonment of the humanity behind economic activity. Lonergan too was wary of this danger. He felt that human science, when it mistakenly assumes that in order to be scientific it must be like the natural sciences, makes men mechanical and results in an estrangement of man from his society.<sup>6</sup> As we close out this century, it would appear that others are also seeing the need to define an appropriate method for studying human industry in all its aspects.

In this dissertation, I have applied several methods, and worked under certain methodological assumptions. Foremost of these assumptions has been that economic development is not a kind of economy, it is a kind of human development. We have taken economic development principally as the development of the meaning of our human industry.<sup>7</sup> And since there are

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<sup>3</sup>Krishnan, A Survey of Ecological Economics, 92

<sup>4</sup>Ibid , 62

<sup>5</sup>Robert L. Heilbroner and Lester C. Thurow, Economics Explained (New York: Simon & Schuster, 1982) , 240

<sup>6</sup>Lonergan, Topics In Education, 46

<sup>7</sup>Lonergan, Philosophical and Theological Papers, 109

methods proper to particular types of inquiry, what is appropriate for studying the economy may not necessarily be appropriate for studying a species of human development.<sup>8</sup>

Perhaps the question of method remains most important for the theologian interested in making a contribution to the debate about how to forge a more sustainable development. I hope that this study demonstrates the reason why a purely secular and philosophical approach to the problem of sustainable development is wholly inadequate. If it has, then the door is open for theological contributions from all sort of religious avenues. Insofar as some notion of transcendence is common to any theological approach, there is further hope that a common cultural solution may be forged that goes beyond our current ineptitude at going beyond. Perhaps we have gotten glimpses of the solution already. As Lonergan said, the concreteness of method is concerned with conversion as basic to it.<sup>9</sup> I feel that if we discover what is common about St. Augustine's City of God, the Church's contemporary Body of Christ, or Lonergan's cosmopolis, we may make a sound beginning.<sup>10</sup>

#### **4) Discover the central form of human industry.**

Although I admitted that central form is isomorphic with conjugate form, cognitional operations, and the proportionate good, I have nonetheless refrained in the present study from entering into a discussion of the central form of human industry. Is there a central form to human industry, and if so, how is it to be described and explained?

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<sup>8</sup>Lonergan, *Insight*, 546.

<sup>9</sup>*Ibid.*, 338.

<sup>10</sup>For more on cosmopolis, see *Ibid.*, 258-265, 750ff.

#### 6.4. L'Envoi

As conversion is basic to Christian living, so an objectification of conversion provides theology with its foundations.<sup>11</sup> My project has been to objectify conversion as it applies to the endeavor of human industry, and thereby provide a theological foundation for discussing the meaning of development of industry in general and the problem of sustainable development in particular. I would like to end with a thought about what constitutes the keystone of this foundation.

We discover that there is a power at work in us that can transform even our distorted wills. This transformation is not subject to our control but comes as a gift. We call it grace, and we can place no limits on the extent to which grace can make us into new men and new women.

Apart from the transformative power of grace, there would be no grounds for hope.

John B. Cobb, Jr.<sup>12</sup>

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<sup>11</sup>Lonergan, Method, 130-131.

<sup>12</sup>John B. Cobb, Jr. , "Christian Existence in a World of Limits," in Religion and Environmental Crisis, ed. Eugene C. Hargrove (Athens Georgia: University of Georgia Press, 1986) , 176.

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