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Two Fundamental Notions of Economic Science

WE SHALL HAVE TO DO A LOT of thinking and a lot of educating before we can hope that our exchange processes will swing easily and gracefully from an expansion into a static phase instead of falling clumsily and painfully into a slump.¹

We are presently in the midst of a clumsy fall into a painful slump. Because effective moral action requires an understanding of the related sciences, we cannot collectively chart a just course of recovery from the present crisis without an understanding of the fundamental elements of economic science. Yet, as Bernard Lonergan remarked in “Moral Theology and the Sciences,” economics remains the “notorious instance” of a human science “open to suspicion.”² This is still true today. With the current crisis the chorus of agreement from economists themselves has increased in volume.³ Yet, while many grasp the need for a revolution in economics, there is little agreement on what might replace the current model. Moreover, there is a deep pessimism about the possibilities for a sea change in economic education in the university. Steve Keen, a veteran of the struggle, writes:

Given how severe this crisis has already proven to be, the reform of economic theory and education should be an easy and urgent

task. But that is not how things will pan out. Though the ‘irresistible force’ of the Global Financial Crisis is indeed immense, so too is the inertia of the ‘immovable object’ of economic belief.⁴

Consequently, in the foreseeable future we can expect a continuation of the cyclical ups and downs that have bedeviled our economic progress report. Thus, even though Lonergan has given us the foundations for the science of economics that is so desperately needed, there are substantial long-term obstacles to its implementation.⁵ It is important, then, that we present the core of his discovery in a way that any global citizen can understand. Without such a long-term educational strategy, Lonergan’s hope for an economist in every village, intelligently guiding the exercise of economic liberty, remains a pipe dream.

The vast majority of commentary on the ‘current economic downturn’ is almost exclusively devoted to finance. Yet the primary economic process is the production process. It is the job of money and finance to adapt to the underlying production rhythms. If we are to understand money, we need to have a handle on production. Starting out with finance is putting the cart before the horse. Lonergan’s two fundamental ideas—the differentiation of two distinct economic circuits, the basic circuit and the surplus circuit, and the pure cycle—can be introduced without the complications of monetary exchange, whether operational or redistributive. Drawing attention to these elements in their simplest form is a necessary strategy if we are to communicate the fundamentals of economic science. In what follows I introduce the key elements of the production process as first presented by him in chapter 2 of *For A New Political Economy*.⁶

1: Two Circuits

All human activity occurs “rhythmically in a series of impulses, and the aggregate rhythm is a compound of many minor rhythms of varying magnitudes and frequencies.”⁷ Out of the total flow of human activity, we

can differentiate its economic rhythms. Economic activities are those routines that provide for the material fabric of human life. There are circuits of work by which we intelligently organize bodily cycles and psychic rhythms to the practical task of survival. Insofar as it is an organized circuit of work in a community, the work is economic in the most basic sense for it contributes to a standard of living. Thus, underlying the superstructure of culture “there stands as foundation the purely economic field concerned with nourishment, shelter, clothing, utilities, services, and amusement.”⁸ It is a condition for all higher social and cultural activity. Painters need paint and studios; entertainers need stages and theatres; education needs books; courts need courthouses; and religions need churches, temples, mosques and synagogues.

In the economic field itself Lonergan differentiated two distinct productive rhythms. There is a *basic circuit* of work whose function is to produce the goods and services that enter into the standard of living and there is a *surplus circuit* of work whose function is to supply the goods and services that are used to produce the basic circuit of work. In Nova Scotia where I live, it is a common practice for families to go blueberry picking in August. The basic circuit involves traveling to the field, collecting the berries, and returning home. When picking blueberries, the children are usually tempted to eat the berries as they live with little thought to tomorrow; however, to assure a successful venture, families bring baskets. Working the same patch, those with the baskets bring home more berries than those without one. The baskets have a different relation to the work of picking blueberries and the goal of collecting berries for eating. Making baskets is different than picking berries with respect to the final goal of survival at whatever standard of living. In this context picking blueberries is a basic circuit of work while making baskets for blueberry picking is a surplus circuit of work. Making the basket itself does not result in blueberries for eating. However, *using* the baskets increases the efficiency of blueberry picking and the baskets, as long they hold up, are available for future blueberry-picking ventures. When baskets are in use they are part of the basic circuit of work. When they wear out, replacing them by making new baskets counts as a surplus

circuit of work. This is Lonergan's fundamental insight.

Typically, most of the berries collected are baked into pies, grunts, muffins, puddings, torts and so forth. Though some of the product may be sold at bake sales and to restaurants, this is not our concern at the moment. In the simplest meaning of the word 'economic,' the blueberry pies, grunts and torts do not need to be sold to be part of the economic rhythms of life. Baking is a manufacturing process that contributes to the standard of living. In the baking process there is a one-to-one relationship between materials and final product. The ingredients for my mother's blueberry pie filling are as follows: 3 pints of blueberries, 2 tablespoons of lemon juice, 1/4 cup flour, 1/2 cup of sugar, 1/4 teaspoon ground cinnamon, 2 tablespoons of unsalted butter and one egg. This much of each ingredient and the two-crust pie shells will produce one pie. If you want to make two pies, you need to double the amounts. It might also be a good idea to have a little more on hand in case you drop an egg or spill the milk. The ratio of ingredients to pies is more or less one-to-one. By contrast the tools of pie-making produce an *indeterminate* number of pies over an *indeterminate* length of time. Unlike pie ingredients, the whisks, bowls, spoons, spatulas and oven are not used up each time a pie is made. They remain to produce more pies in the future until the point at which they wear out or are lost. The relationship between the tools of the pie-making trade and pie-making is not the same one-to-one correspondence we find between ingredients and pies. There may be higher levels of correspondence. For example, someone could produce a better stove that improves the efficiency of pie-making or a new assembly line for making stoves that improves the efficiency of stove manufacturing. If we think of pie-making as occurring at a certain velocity—that is, so many pies made in so many hours—then we might think of the surplus circuits of work as *accelerating* the velocity of the basic circuit of work.⁹ If we were to replace our current equipment with better equipment, then the circuit velocity of the basic circuit of work improves. My great-grandmother used a wood stove in a house without electricity. It took her longer to bake a pie than my mother, who used an electric stove. My mother could have

made more pies with the saved time, but she preferred to read when such an opportunity presented itself.

Lonergeran differentiated all the circuits of work by their *functional* relationship to the increment of ultimate products produced in an economy. The basic circuit of work contributes *directly* to the emerging standard of living, and the surplus circuits of work contribute *indirectly* to the emerging standard of living. It is by differentiating all circuits of work in terms of their relationship to the emerging standard of living that Lonergan identifies two fundamental kinds of economic circuit, the basic circuit and the surplus circuit. In *For a New Political Economy*, Lonergan symbolically designates the total economic flow as DA, the basic flow as DA' and the surplus flow as DA'', where 'A' means economic activity, 'D' means some series of acts or flow occurring at some rate. The relationship can be expressed as $DA = DA' + DA''$. There is no quantitative meaning applied to this equation. All Lonergan means at this point is that any economy will include activity in both the basic and the surplus circuit. While there is much more to be said about how these two circuits relate to each other and about the ratio of DA' to DA'', it is the differentiation of the two distinct circuits of work that places his theory on a unique footing. Many economists do make a nominal distinction between consumer goods and production goods but it is not crucial to their theoretical underpinnings. Both GDP and GDI, which are standard measures of economic activity, lump together consumer and producer goods. Lonergan's claim is there is a real, functional distinction between the basic and surplus circuits that is fundamental for economic analysis. Without the distinction, there is no economic science. If we operated on the assumption that planets traveled round the sun in a circle instead of an ellipse, the Mars Rover would completely miss the mark. So too, operating on the assumption that all economic activity is in the same circuit misses the mark. You have to know to which circuit of work a set of actions belong. There is no talk yet of markets, exchange, money or financial instruments. Yet all of these developments of human intelligence are beholden to and conditioned by the underlying reality of the two distinct circuits of productive work.

2: *The Pure Cycle*

Having differentiated two distinct circuits of work in the production process, Lonergan considers the possibility that we can distinguish distinct phases in an economy. His approach is to project an ideal line of development, or a pure cycle, for the collaborative circuits of work that begins with a creative development of a new economic set-up that is invented, developed, brought into service and subsequently exploited for the good of all.¹⁰ Given the generality of his idea, Lonergan can do this initially without reference to the exchange economy. In *For a New Political Economy*, he identifies four phases of this process of the pure cycle. Each phase represents a different proportion in the rates of acceleration in each of the two circuits. Organization of the phases follows from the analysis of the process by which new technologies and methods of productions are developed and implemented to transform current production rhythms.

Keeping in the spirit of our blueberry picking example, let us imagine a simple food-gathering economy. Survival depends on a routine of seeking out edible fruits and vegetables and eating them where they are found. In order to survive, a good proportion of the day is spent on this activity. The tribe lives 'hand to mouth.' When they have exhausted the supply near by, they move to where there is a more abundant supply of food. Once this is exhausted, they must move again. Shelter is therefore simple and temporary. All things being equal, the tribe meets material needs at approximately the same rate year after year. What happens when a tribe member comes up with the idea of baskets for gathering the fruit? Once tribe members grasp the benefit of developing baskets, they set aside time and resources to design and make baskets. At the same time, food requirements of the tribe remain the same. While this is happening there is no increase in the supply of vegetables and berries. What does increase, once the basket project starts, is the total time spent working because the basket project is added to the normal workload.

Eventually the baskets are put into use. Now the extra work put into the production of baskets slows down as they start distributing the new

baskets to tribe members. With baskets in hand, tribe members spend considerably less time gathering food and can begin to think of the possibility of storage. In the end, this means that there is greater time available for other activities not related to the gathering of food. The baskets make it possible to stay in one place longer and, once storage methods develop, can facilitate trade with near-by tribes. The basket idea may eventually lead to many other improvements in conditions. The net effect is a shift from a hand-to-mouth standard of living to a higher standard of living that includes leisure time for the development of tribal culture. They now have more time for dancing, religious rituals, or other common projects. Some members of the tribe may devote themselves to basket decoration, coming up with new designs and other uses for the baskets. They may fantasize about the merits of staying in one place and start to think about how to cultivate vegetables and fruit.

We can now identify the distinct phases of an economic transformation. In *For a New Political Economy*, Lonergan differentiates four phases: the static, the capitalist, the materialist and the cultural.¹¹ The four phases are pure types or first approximations. Each has its own laws. Assuming they function according to these laws, the phases, taken together, are purely progressive. There is no retrogression in the pure cycle: it either remains constant, as in the static phase, or production increases, either through the effective development of new ideas or in their exploitation. The capitalist, material, and cultural phases can occur simultaneously. Compound cases are studied by assembling a combination of the three sets of laws.

We start with the *static* or stationary phase. Each year is much the same as the last. Next, when the tribe embraces the basket idea, there is a period when there is extra activity or surplus activity directed towards the making of baskets for eventual use in food-gathering. However, while the tribe is designing and making baskets, there are no additional foods gathered. The standard of living stays the same, though the total effort devoted to production of baskets and food gathering taken together increases. In non-exchange production it is the extra time and effort in hopes of a better tomorrow that constitutes the

investment. 'Credit' is the assent to the idea that the investment of time and effort in making baskets will pay off for the tribe in the long run. In *For a New Political Economy*, Lonergan calls this the *capitalist* phase or as he later called it, the surplus expansion. In terms of our symbols, DA' is constant, but DA" is increasing. As the baskets are made and distributed, DA' decreases to a new constant level that meets the need for the maintenance, repair and replacement of baskets, and DA' increases as more food is gathered in a shorter period. It is here that the extra time and effort expended in the previous phase reaps benefits for the tribe as a whole. More berries can be picked and carried home in less time and the overall standard of living improves. This is the *materialist* phase or basic expansion. Alternately, the tribe may make baskets for cultural reasons that may include decoration or use in religious ceremony. Lonergan names this the *cultural* phase. The economic mechanics of the cultural phase are the same as the materialist phase and Lonergan drops it in future formulations of his theory.¹² Eventually the tribe exhausts its innovations based on the basket and production routines settle, but at an overall higher rate or velocity. This is a new static phase. Finally, we can assign appropriate slogans to guide the different phases such as 'thrift and enterprise' in the capitalist or surplus expansion phase, 'a chicken in every pot' in the materialist or basic expansion phase, and 'a steady hand at the tiller' in the static or stationary phase.

Lonergan developed his notion of the universal rhythm based upon an understanding of how new technologies and more efficient methods of production enter into a culture and transform it, first its material substratum and then in its cultural life. The more efficient production opens up the possibility of more leisure; though effort could just as well be spent eating more or trading berries and baskets for fish and trinkets. This notion informed Christopher Dawson's ideas on stages of material development, which Lonergan adapts to become the dialectic of fact in "An Essay in Fundamental Sociology."¹³ The pattern uncovered is fundamental to both his account of the dialectic of history and political economy. For this reason, I believe Lonergan came to a notion of two distinct economic circuits around the time he wrote "An Essay on

Fundamental Sociology.” It helps to explain his claim in 1935 that he had a notion of the objective laws of economics.¹⁴ However, assuming Lonergan had notions of the two economic circuits and the pure cycle by 1934 or 1935, he had much work ahead of him. The invention of money and the exchange economy vastly enlarges the scope of economic activity. While any productive activity provides the data for working out the phases of an economy, the exchange system adds the tremendous complexity of the relationship between the production process and the circulation of money that now characterizes our global economy.

Lonergan’s account of the production process provides the basis for two key elements of his theory of macroeconomic dynamics: the division of economy into two distinct circuits and the pure cycle. Furthermore, it establishes the primary role of the production process and its normative rhythms for understanding any form of economy from simple barter exchanges to the complex exchanges of the present-day global economy. Production rhythms are the conditioning schemes of recurrence for the emergence and operation of the exchange economy and as such the rhythms of production set conditions for understanding the circulation of money. The exchange economy must respect these underlying rhythms or pay the consequences. It is only with the emergence of exchange economies that the problem of the concomitance of the circuits becomes an issue, where concomitance means keeping money in each circuit in step with production and balancing the crossover flows between the two circuits. On this point Lonergan writes:

This brings us to the...difference between a Robinson Crusoe and a large-scale exchange economy. The latter is a monetary economy, and the use of the medium of exchange can act as a screen that hides from view the objective necessity of changing preferences and expectations in accordance with change in productive phases. When Robinson is clearing a new field, he is incapable of the illusion that that activity enables him to have more to eat here and now. When Robinson is reaping greater harvest

from more numerous fields, he is incapable of the illusion that the corn he will not care to eat can be transmogrified into capital equipment of, say, a power plant or another cleared field.¹⁵

Given the complexity of supply chains and financial exchanges in the contemporary international economy it is easy to lose sight of the real relationship between money and production. Paying closer attention to the relationship between the two might shed considerable light on the meaning of phrases such as ‘financial meltdown,’ ‘economic downturn’ and ‘stimulus package’ that are the shibboleths of current analysis of the economy.

Finally, a focus on those exchanges related to the production, which Lonergan calls operative exchanges, brings into sharp relief the difference between these exchanges and redistributive exchanges that occur in stock, bond and derivative markets. A bull stock market does not necessarily mean that economic performance is improving, anymore that a bear market means things are getting worse. Operative exchanges have a direct relationship with the production of goods and services; redistributive exchanges do not. While the causes of the current recession are complex, the popular focus on redistributive markets as the measure of economic health has been, I believe, a significant contributing factor in the collective failure to read the signs of disorder in global credit markets that led to the Great Recession. We ought not make a similar mistake in assuming that recovery is simply a financial matter. In the contemporary global economy the volume and complexity of monetary transactions can hide from view the objective necessity of keeping preferences and expectations in step with changes in productive cycles. If we tackle economic recovery with no inkling of the two-circuit distinction, the cyclical recurrence of crises will continue. Changing the culture of economic debate to acknowledge the reality of the two circuit economy is crucial to genuine recovery.

Notes

- 1 Bernard Lonergan, *For a New Political Economy*, vol. 21 of *Collected Works of Bernard Lonergan*, ed. Philip J. McShane (Toronto: University of Toronto Press, 1998), 100.
- 2 ²Bernard Lonergan, *Philosophical and Theological Papers 1965-1980*, vol. 17 of *Collected Works of Bernard Lonergan*, ed. Robert C. Croken, Robert M. Doran (Toronto: University of Toronto Press, 2004), 302. Lonergan submitted this paper in 1974 to the International Theological Commission in response to a request by Francis Cardinal Seper.
- 3 See, for example, Steve Keen, “Mad, Bad, and Dangerous to Know,” Thomas I. Palley, “After the Bust: The Outlook for Macroeconomics and Macroeconomic Policy” and J.P. Bouchaud, “Economics Needs a Scientific Revolution,” all in the most recent edition of *Real-World Economics Review* (no. 49, 2009). In the previous issue (no. 48, 2008) we find Geoffrey M. Hodgson, “After 1929 Economics Changed: Will Economists Wake Up in 2009?” However, criticism of mainstream neo-classical economics is not a new or exclusive sport. A classic example is Joan Robinson, *Economic Heresies: Some Old-Fashioned Questions in Economic Theory* (New York: Basic Books, 1971). As of this writing, The Heterodox Economics Portal <http://www.open.ac.uk/socialsciences/hetecon/journals.htm> lists 72 journals.
- 4 Steve Keen, “Mad, Bad, and Dangerous to Know,” *Real-World Economics Review*, no. 49 (2009), 3.
- 5 I make the case for this claim in *Lonergan’s Discovery of the Science of Economics* (Toronto: University of Toronto Press, 2010).
- 6 Lonergan aimed his presentation in *For a New Political Economy* at a broader audience than *Macroeconomic Dynamics: An Essay in Circulation Analysis* and for this reason I would recommend the first four chapters of the earlier essay as the easier introduction to his theory.
- 7 *For a New Political Economy*, 11.
- 8 *For a New Political Economy*, 12.
- 9 *For a New Political Economy*, 16-7.
- 10 Lonergan’s approach is significant. He begins with the question, “What is the nature of economic development?” Answering this question grounds what the ideal course of development would be. Only then does he consider distortions of the ideal development. The pure cycle is an ideal type that provides the heuristic context for subsequent research into particular economies. The trade cycle includes deviations from the ideal course of development. The method is an application of the analytic concept of history developed in the 1930s. See “The Analytic Concept of History,” edited with an introduction by Frederick E. Crowe, *Method: Journal of Lonergan Studies* 11:1 (1993), 1-36.
- 11 In *An Essay in Circulation Analysis* Lonergan reduces the phases to three by eliminating the cultural phase. The capitalist phase becomes the surplus expansion; the material phase becomes the basic expansion, and the static phase becomes the stationary phase.
- 12 The distinction hinges on the use of economic goods. Its inclusion in *For a New Political Economy* makes sense if we consider that Lonergan’s original intention for that essay was to explain the link between the material substratum and the cultural superstructure. *An Essay in Circulation Analysis* is pure macroeconomics. In the latter context, there is no essential difference between the material phase and the cultural phase. The distinction is, however, relevant to political and ethical questions about the economy.
- 13 Bernard Lonergan, “An Essay in Fundamental Sociology,” from Lonergan Research Institute Archive file A713. The essay was likely written in the spring of 1934. See Michael Shute, *The*

Origins of Loneragan's Notion of the Dialectic of History: A Study of Loneragan's Early Writings on History (Lanham, MD: University Press of America, 1993), 69, FN 21. The portion of the essay that survives is included in Michael Shute, *Loneragan's Early Research in Economics: Texts and Commentary* (Toronto: University of Toronto Press, 2010), chapter 1.

14 See Loneragan's Letter to Fr. Keane (1935). Available from the Loneragan Research Institute, Toronto.

15 *For a New Political Economy*, 151. Sean McNelis