



# THE "NEW ECONOMY"

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### The 'New Economy'.

Lenin once said: "The Capitalists will sell us the rope with which we will hang them."

In 1921, during the 10<sup>th</sup> congress of the All-Russian Communist Party, Lenin proposed a New Economic Policy in order to prevent a predicted famine, and deal with increased peasant unrest, and a disastrous decline in both agricultural and industrial output caused by implementation of the "War Communism" policies of 1917 to 1921. Essentially the policy allowed small farmers and businesses to be privatized and run for profit with taxes charged on the net output. Over the next few years, agricultural production increased to almost pre-revolutionary levels. The state however maintained control of the "Commanding Heights" - heavy industry, finance, transportation and foreign trade. The policy continued even after Lenin's death, although it was strongly opposed by hard core communists. Stalin subsequently reverted to state control and collectivization.

Some have argued that the Chinese economic engine of the last few years is merely a repeat of Lenin's NEP. It has certainly contributed to the demise of the manufacturing sector here in Canada, and in other countries, and in that respect, if no other, harkens back to Lenin's famous quote.

In the United States some commentators have gone so far as to suggest that the economic stimulus package recently signed into law by the new President bears a striking resemblance to the NEP first suggested by Lenin. The Government has effectively taken control of the 'commanding heights' while leaving a market economy for less 'critical' sectors of the economy. However characterized, it is clearly a marked departure from the free market, self regulating economic system promulgated by the U.S. administration, and many others in recent years.

Is this what we mean by the New Economy?

#### The New Economy: What do we mean?

In recent years the term 'The New Economy' has become a common buzz word in much the same way as 'thinking out of the box' was ten or so years ago. The internet is full of web sites, articles, commentators and other entries dealing with The New Economy. But what does it

mean? On a recent trip to Wallaceburg Ontario it became clear to me what the current New Economy has meant to what was once Ontario's manufacturing heartland. For anyone who knew Wallaceburg 20 years or so ago, a trip there today is a sobering experience. The once vibrant waterfront along the river is either gone or boarded up. As you approach the town from the southeast you pass 4 or 5 large deserted factories, with weeds growing in what was once the employee parking lot. All told 9 or more major plants, many of them automotive suppliers, have closed down in the last few years. A couple of casting plants continue to hang on by their fingernails with work forces greatly reduced from what they once were. To Wallaceburg, the New Economy means no jobs, reduced opportunity, closed plants and a community that has lost its once vibrant personality.

Wallaceburg is not alone. According to the Bureau of Labor Statistics in the United States, that economy shed 598,000 jobs in January, raising the job loss totals for the past 3 months to 1.7 million, the largest loss in the last 34 years. Because the population in the U.S. continues to grow, the true statistic is even more stunning. The actual job losses of the last 13 months, 3.6 million, mean the U.S. economy is actually 5.2 million jobs below what is needed to maintain pre-recession rates of employment for the American workforce. The employment rate for men at 66.1% is the lowest on record, and for women, at 55.3%, at the lowest measured in more than 13 years. The most recent data for Canada shows a similar trend, with 127,00 jobs lost in December, the majority being manufacturing jobs in Ontario.

Is this what we mean by the New Economy? That certainly is not what was being discussed under this topic before the recent economic crisis began. In fact it was almost the opposite. In an editorial published November 17<sup>th</sup> 2007, Stephen B. Sheppard, the Editor in Chief of Business Week, touted the New Economy as the reason a 2 1/2 percent growth rate was no longer a reasonable limit for the overall U.S. economy. He argued that the New Economy justified a higher target. He said this:

"In an era of stronger productivity growth, which may be just starting to show up in statistics, the speed limit for the U.S. economy is probably 3% to 3 1/2% a year."

He defined the New Economy by identifying two broad trends that had been underway, according to him, for several years. First, globalization of business - meaning the spread of

capitalism around the world by the introduction of 'market forces, freer trade, and widespread deregulation'. The fact that these forces are being recognized and applied in "...former communist countries as well as in Western Democracies" is specifically identified as a reason for even faster economic growth. Second, he identifies the revolution in information technology - the digitization of information and the almost instant dissemination of that information around the world 'boosts productivity, reduces cost, cuts inventories, and facilitates electronic commerce'. He describes it as a 'transcendent technology - like railroads in the 19<sup>th</sup> century...'.

His views of the virtue of deregulation and the advantages of the market economy and 'market forces' are not unique. Economists have, for many years, advocated a thesis based, not on scientific evidence, but on what I would characterize as an almost religious 'conviction' in the ability of the market place to self regulate and produce the optimum result. The 'invisible hand' concept originally coined by Adam Smith in his work, *The Wealth of Nations* has been used by modern economists to justify and explain the neo-classical economic policies adopted in the United States, and some other Western democracies, notably Britain, over the last twenty five years. The Nobel prize winning economist, Milton Friedman, was a major leader of neo-classical economic thinking and scholarship for many of those years, and his ideas were adopted as policy by conservative think tanks and administrations in the United States, Britain and elsewhere. Despite the fact that his current budget runs arguably contrary to almost everything Mr. Friedman would have counselled, Stephen Harper was very much an admirer and follower of Mr. Friedman's ideas. Friedman referred to Smith's concept of the invisible hand as 'the possibility of cooperation without coercion'.

Recent events throughout the world have raised some doubts as to the validity of this concept. Deregulated financial markets in the United States are now seen as the catalyst for what has become the worst economic crisis of our time. The instant sharing of information around the world has had the unintended result of spreading the panic and fuelling the resulting plunge in stock markets. The reaction around the world to a crisis that seemed to originate in the United States has been both rapid and homogenous.

But there were those who questioned these ideas before the recent financial collapse. Some have predicted exactly this kind of collapse and pointed out the root causes. Before I discuss their ideas in more detail, I first provide a brief discussion of Economics.

#### **Neo-Classical Economic Theory**

When analyzing issues, economic scholars ask questions based on the assumption that individuals in an economic system are motivated by 'rational self-interest'. In other words, individuals, when faced with a number of economic choices, will choose those that maximize their individual utility subject to whatever constraints the system imposes on the choices available to them. This is the fundamental hypothesis of the economist. Professor Michael Trebilcock of the University of Toronto puts it this way:<sup>1</sup>

With respect to positive economic analysis of legal issues the analyst tends to ask the following kind of question: if this (legal) policy is adopted, what predictions can we make as to the likely economic impacts, allocative (the pattern of economic activities) and distributive (winners and losers), of the policy, given the ways in which people are likely to respond to the particular incentives or disincentives created by the policy? In predicting these behavioural responses, the positive analyst will assume that most individuals are motivated by rational self-interest, in the sense of maximizing their individual utilities subject to whatever constraints are imposed on the choices open to them. (my emphasis)

Economists use this fundamental hypothesis to theoretically analyze the incentives or disincentives created by policy makers in an attempt to predict the behaviour of a large number of actors in a given system. In a market system this fundamental hypothesis predicts that those goods and services that are scarce, and of higher utility will have higher value, those more common and of lower utility will have lower value. The market will determine the value of any good or service available, and to the extent public policy restrictions or incentives affect the market, they will increase or decrease the value, but the market will respond to such restrictions in 'predictable' ways. Again, Professor Trebilcock puts it this way<sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Trebilcock, Michael, *The Lessons and Limitations of Economics*, (2005), revised and updated version of *An Introduction to Law and Economics (1997) 23, Monash Law Review, 123*, at p. 4 of revised version.

<sup>&</sup>lt;sup>2</sup> Supra, note 1, at p. 5.

Understanding the incentives effects of these various legal regimes is a necessary prelude to formulating normative judgments as to the merits of the regime under analysis relative to alternative policies that might be employed to pursue the same or alternative social goals.

Thus analysts use this fundamental theory to suggest rules and regulations that are designed to elicit responses from the target market that are seen as desirable by the policy maker. The fundamental presumption of this 'neo-classical' <sup>3</sup> economic analysis is that economic agents respond to incentives or disincentives in predictable ways and that appropriate incentives or disincentives can influence behaviour in the way desired by the policy regulator.

Many authors have recognized a problem with this approach.<sup>4</sup> 'Rationale self-interest' is not so easy to define. It is difficult to see how an individual who sacrifices his life to save that of a friend can ever be acting in his own rational self-interest – at least in this world, yet for millennia such actions have been seen as the epitome of virtue - "No greater love ...".<sup>5</sup> Perhaps the person who gives his life for a friend thinks he will be better off in the after life as a result and therefore his action is in his rational self-interest. On this measure, any activity could be rationalized as in one's rational self-interest. But as Professor Trebilcock rightly observes<sup>6</sup>, this approach is not helpful in predicting behaviour because "... almost any behaviour can be rendered consistent with the model". A narrower definition is therefore often utilized in the analysis, namely, *material* self-interest. In most cases, that means monetary cost or reward in our culture. Economists, when pushed, will admit than even this narrower approach is essentially tautological, but that it is nevertheless a useful analytical tool.<sup>7</sup> I would argue that ignoring other important motivating factors - most recently fear - can lead to very inappropriate policy decisions

<sup>&</sup>lt;sup>3</sup> Supra, note 1, at p. 4.

<sup>&</sup>lt;sup>4</sup> Supra, note 1, at p. 11 - 13.

<sup>&</sup>lt;sup>5</sup> Book of John, Chapter 15, verse 13.

<sup>&</sup>lt;sup>6</sup> Supra, note 1at p. 11.

<sup>&</sup>lt;sup>7</sup> In his famous article *The Problem of Social Cost*, Coase, R.H., The Journal of Law and Economics, Volume III, October 1960, p. 1 to 69, Mr. Coase acknowledges that, in the final analysis, economic analysis requires measures of factors 'in all spheres of life', not just production, and that when problems of welfare economics are involved, as I would argue they are in any discussion involving allocation of medical services, these problems ultimately "... dissolve into a study of aesthetics and morals" (at p. 43)

and in some measure, this almost religious belief in the self regulating market and its guidance by the 'invisible hand' has contributed hugely to the crisis we now face.

#### The Ideal Gas Analogy

Let me provide an analogy from an entirely different discipline - physics. In 1660, Robert Boyle discovered that all gases at lower volumes and pressures observed the following relationship; pressure x volume = constant. More than 100 years later, the relationship between volume temperature and pressure was empirically established in what is known as the ideal gas law: PV = nRT.<sup>8</sup> In other words, the product of pressure and volume when divided by temperature (in Kelvin degrees) is always a constant. This relationship is true for all gases at lower temperatures and pressures. It can be explained by conceptualizing gases by way of a 'model' that postulates that all gases are composed of a large number of infinitesimally small particles, each having mass and velocity. This is known as the Ideal Gas Model. Temperature is a measure of the average kinetic energy of each of the particles. This model allows one to mathematically derive the ideal gas law, and in addition, develop all the 'laws' of classical thermodynamics from first principles.<sup>9</sup> It explains how a refrigerator functions and predicts its maximum efficiency, and that of many other devices and systems. It predicts absolute zero - the temperature at which the individual particles have zero velocity and therefore zero kinetic energy, and tells us that is 273 degrees below zero celsius (0 degrees Kelvin). It is a very useful model and explains a great deal of what happens in the physical universe. BUT it cannot explain what happens when hydrogen and oxygen are mixed under high pressure. A violent explosion occurs. Why? Because the fundamental premise of the model is too simple. Gases are not just infinitesimally small particles. They are composed of molecules that, although very small, have properties other than just mass – chemical properties that cause them to react chemically, sometimes with violent consequences.

<sup>&</sup>lt;sup>8</sup> Barrow, Gordon M. *Physical Chemistry* 2<sup>nd</sup> edition, McGraw-Hill, chapters 1 &2, p. 1 to 59.

<sup>&</sup>lt;sup>9</sup> This approach is known as statistical mechanics and allows all the laws of thermodynamics that were empirically established by experiment, to be mathematically derived from this basic concept. When observations in nature can be explained with this accuracy by a model, we usually have confidence that we have a very good understanding of how the system under examination functions. But this model does not and cannot explain chemical, or indeed nuclear reactions.

What does this have to do with economics and economic analysis? I submit, and economists will acknowledge, that human beings do not just behave or choose their options according to their own rational material self-interest – there are often other factors at play which economics cannot explain – just like the ideal gas model cannot explain chemical reactions. I will turn to some recent research discussing this issues later. First, let me return to the Ideal Gas analogy.

An internal combustion engine works on the following basic principles: gasoline vapour (a gas) and air (containing oxygen) are introduced into a cylinder, a spark is produced which causes the gasoline vapour and the oxygen to combine chemically by burning rapidly. This explosion causes the gas to heat rapidly, expand, and produce considerable pressure, which drives the cylinder and propels the engine. The ideal gas law accurately predicts this expansion and the pressure it produces, but the explosion that produces this heat is governed by the chemical properties of the gases, and is not predicted, in any way, by the ideal gas model. The reaction between the vapour and oxygen is entirely chemical in nature, but an understanding of both 'models' is required to design an efficient internal combustion engine.

In the same way, economic analysis is required to design public policy, but the model that predicts that individuals react primarily in their own self–interest is an incomplete one because there are other factors at work that are also important, sometimes more important. Designing policy, like designing the internal combustion engine, requires an appreciation of more than one model. The new President of the United States seems to understand that people can be motivated by more than their own rational self interest. We need to be concerned about the health of our society as a whole, and about the planet that supports all of us.

Another famous author dealt with exactly this problem in a seminal article published in 1968. The tragedy of the commons analysis is based on the fundamental premise of economic theory - actors make choices based on their material self-interest. The commons analysis postulates a village with a 'commons', an area that is shared by all the farmers in a village. The commons will support 100 cows, 1 for each of the villagers. But if one villager obtains 2 cows, he is able

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to double his benefit. A rational self-interested villager will, according to this analysis, do this even though he knows if all other villagers do so, the commons cannot be sustained.<sup>10</sup> A rational actor interested only in his or her own self-interest will obtain the extra cow, the result being an unsustainable resource.

To avoid this result either external regulation or 'internalization' of the cost is required. Internalizing the cost involves attaching an individual cost to the use of the commons which depends on the extent of the use, or arranging the commons in such a way that an individual suffers individually, as opposed to collectively, from any overuse. The commons could be divided into defined packets of land. This approach essentially was the solution to common grazing land in the American west. This is really a variant of internalizing the cost but it has the disadvantage of requiring duplication of facilities in each parcel. Alternatively, the entire commons could be 'sold' to one buyer. This again internalizes the cost and allows for greater utility – but at the expense of the individual autonomy of each farmer. In order to protect the survivability of the commons, and to protect the interests of all of its users, more than an unregulated free market is required. The invisible hand just won't do the job - not even theoretically!

#### A New Model of Behaviour

In the last two decades significant research has been done on human 'motivation' and behaviour. This research has examined human behaviour using the methods and tools employed by evolutionary biologists when studying the behaviour of other organisms. The results of this research are only recently becoming widely available and discussed,<sup>11</sup> and they strongly contest the 'rational self-interested' model of human behaviour at the basis of traditional neo-classical economic theory. Researchers have advanced both behavioural and physiological grounds to assert that humans are 'hard wired' for co-operation, group advancement, and protection. This

<sup>&</sup>lt;sup>10</sup>Garrett Hardin, *The Tragedy of the* Commons, science 162 (1968) p. 1243 - 1245. Hardin is actually referring to the work of an amateur mathematician, William Forster Lloyd, who published a pamphlet in 1833 outlining this scenario.

<sup>&</sup>lt;sup>11</sup> For an excellent summary of this research see: Wilson, David Sloan, *Evolution for Everyone: How Darwin's Theory Can Change the Way We Think About Our Lives*, A Delacorte Book, April 2007 published by Random House Inc.

research suggests that for humans, rational self-interest probably means rational group interest. According to this research, human behaviour and physiological nature are conditioned and designed in many demonstrable ways to encourage and facilitate cooperation and advancement of the group, sometimes at the expense of some of the individuals in the group. In huntergatherer societies, for example, some individuals were required to take inordinate personal risk in order to provide food for the group. Behaviours evolved that supported and encouraged this seemingly altruistic behaviour on the part of individual members because such behaviours were necessary for the group to survive.

This new model suggests that the 'altruistic' motivations that have long been seen as admirable in virtually all societies are so admired because they were the necessary ingredients for those societies to continue. Societies that did not have these behavioural characteristics were not as successful as those that did, and the successful societies passed on their behavioural characteristics to their progeny over hundreds of thousands of years. We are their progeny.

The research also indicates that humans have, not only behavioural characteristics that facilitate cooperation and altruism towards the group, but also powerful 'hard wired' responses to correct the behaviour of those members who do not comply with what is in the best interest of the group, including censor, and eventual elimination of those individuals.<sup>12</sup> These are behaviours that are seen in other organisms where cooperation is essential to survival. Societies that encourage and develop altruistic behaviour with respect to members of their group are the societies that have survived over time. Human behaviour has evolved, it is suggested, over an extended period of time – much of it pre-historical - to facilitate group cooperation and advancement. The extent to which individuals are, or are not, part of the 'group' will, in large measure, determine the behaviour of the group toward such individuals.

This research indicates that our physical morphology as well as our behaviour has also evolved to facilitate this group ethic. The placement of our eyes, and their extreme visibility to others as compared to other primates, it is argued, is a physical adaptation to make it more difficult for

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<sup>&</sup>lt;sup>12</sup> Supra, note 11, at p. 160 and following.

humans to disguise their intentions.<sup>13</sup> Other research demonstrates that egalitarian groups are much better at solving complex problems than even the smartest individual.<sup>14 15</sup> The ability to speak, and thereby convey complex ideas appears inborn, and obviously facilitates group cooperation. This model of behaviour is much more complex and multi-faceted than the rational self-interested approach of traditional economic theory, but I would argue it allows for a richer understanding of the complex interaction between various factors that influence both individual and group behaviour.

Neo-classical economic theory is not just challenged from an evolutionary perspective. Robert Nadeau, an environmental scientist at George Mason University, wrote the following words in an editorial that appeared in the April, 2008 edition of Scientific American:<sup>16</sup>

The 19<sup>th</sup>-century creators of neoclassical economics – the theory that now serves as the basis for coordinating activities in the global market system – are credited with transforming their field into a scientific discipline. But what is not widely known is that these now legendary economists – William Stanley Jevons, Leon Walras, Maria Edgeworth and Vilfredo Pareto – developed their theories by adapting equations from 19<sup>th</sup>-century physics that eventually became obsolete. Unfortunately, it is clear that neoclassical economics has also become outdated. The theory is based on unscientific assumptions that are hindering the implementation of viable economic solutions for global warming and other menacing environmental problems.

In this article the author goes on to explain that the equations adopted by these economists were later discarded by physicists who at the time criticized the economists for their adoption in economics as being 'absurd'.<sup>17</sup> According to this author equations devised by a German physicist, Helmholtz, to explain electromagnetic wave phenomena in terms of Newtonian physics, equations that were later entirely discredited by Einstein and others, were simply adopted with economic variables substituted for physical ones in Helmholtz's equations. Utility

 $<sup>^{13}</sup>$  Supra, note 11, p. 165 – 171, The author points out by way of example that championship poker players always wear sunglasses to hide their eyes, and presumably their intentions.

<sup>&</sup>lt;sup>14</sup> Supra, note 11, p. 202 -219

<sup>&</sup>lt;sup>15</sup> Friedberg, Mark W. et al, *Does Affiliation of Physician Groups with One Another Produce Higher Quality Primary Care*?, (27 June 2007)Journal of General Internal Medicine, 10.1007/s1 1606-007-0234-0, published online, p. 1 – 27. This article outlines research that demonstrates that physicians who practice in groups have higher performance measured by a number of quality related measures.

<sup>&</sup>lt;sup>16</sup> Nadeau, Robert, *The Economist Has No Clothes*, Scientific American, April 2008 at p. 42.

<sup>&</sup>lt;sup>17</sup> Supra, note 16, at p. 42.

took the place of energy; the sum of utility and expenditure replaced potential and kinetic energy. Economists have, according to this author 'forgotten' the origin of their equations. He proceeds to claim that the four main presumptions of neoclassical economics are unscientific, and that neo-classical economics is "...one of the greatest barriers to combating climate change and other threats to the planet". Whether any of these comments and criticisms are valid I leave to the reader to determine.

He is not the only author to attack 'current' economic theory and the almost religious belief in the 'invisible hand' doctrine that has driven so much of U.S. foreign and domestic policy in recent years. Al Gore in his recent book, *The Assault on Reason*<sup>18</sup> writes extensively on how the theories of the 'market' have been used to justify neglect for the public good in the recently replaced Bush administration. In March 2008, months before the current crisis began the noted historian, Michael Bliss, in a editorial in the National Post questioned the ability of the unfettered 'free-market' and its 'invisible hand' to produce 'better outcomes'.<sup>19</sup>

Perhaps the most apocalyptic view of our societies' current state was delivered by Ronald Wright in the 2004 Massey Lectures titled *A Short History of Progress*. The lectures were later published in book form<sup>20</sup>. His view is decidedly less optimistic. He traces the effect of 'greed' (another name for rational self interest) on the history of civilization and suggests that it has been the dominant human motivation leading to the collapse of each succeeding civilization from the earliest times. He believes civilizations get caught in 'progress traps' that eventually spell their demise. Often the very characteristics that bring them initial success and power are the factors that spell their demise. In his view, unbridled 'capitalism' and the theoretical underpinning of much current economic theory, namely constant economic growth and prosperity - have brought the great successes we recently enjoyed; but will inevitably cause our demise. Here are his concluding comments:

<sup>&</sup>lt;sup>18</sup> Al Gore, *The Assault on Reason*, The Penguin Press, New York, 2007.

<sup>&</sup>lt;sup>19</sup> Michael Bliss, *The whistle blows and an era ends*, National Post, published Thursday March 20<sup>th</sup>, 2008, obtained from web site.

<sup>&</sup>lt;sup>20</sup> Ronald Wright, A Short History of Progress, Edinburgh, Cannongate, 2005

Our civilization, which subsumes most of its predecessors, is a great ship steaming at speed into the future. It travels faster, further, and more laden than any before. We may not be able to foresee every reef and hazard, but by reading her compass bearing and headway, by understanding her design, her safety record, and the abilities of her crew, we can, I think, plot a wise course between the narrows and the bergs looming ahead.

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And I believe we must do this without delay, because there are too many shipwrecks behind us. The vessel we are now aboard is not merely the biggest of all time; it is also the only one left. The future of everything we have accomplished since our intelligence evolved will depend on the wisdom of our actions over the next few years. Like all creatures, humans have made their way in the world so far by trial and error; unlike other creatures, we have a presence so colossal that error is a luxury we can no longer afford. The world has grown too small to forgive us any big mistakes.

Things are moving so fast that inaction itself is one of the biggest mistakes. The 10,000year experiment of the settled life will stand or fall by what we do, and don't do, now. The reform that is needed is not anti-capitalist, anti-American, or even deep environmentalist; it is simply the transition from short-term to long-term thinking. From recklessness and excess to moderation and the precautionary principle.

The great advantage we have, our best chance for avoiding the fate of past societies, is that we know about those past societies. We can see how and why they went wrong. Homo sapiens has the information to know itself for what it is: an Ice Age hunter only half-evolved towards intelligence; clever but seldom wise.

We are now at the stage when the Easter Islanders could still have halted the senseless cutting and carving, could have gathered the last trees' seeds to plant out of reach of the rats. We have the tools and the means to share resources, clean up pollution, dispense basic health care and birth control, set economic limits in line with natural ones. If we don't do these things now, while we prosper, we will never be able to do them when times get hard. Our fate will twist out of our hands. And this new century will not grow very old before we enter an age of chaos and collapse that will dwarf all the dark ages in our past.

Now is our last chance to get the future right.<sup>21</sup>

It might be interesting to ask Mr Wright whether the current crisis is, in his opinion, the beginning chapter of the collapse he predicted.

## **The Choices**

Two different views of fundamental human nature: Ronald Wright's and David Sloan Wilson's. Both views challenge the current principles of economics that have guided much of our public

<sup>&</sup>lt;sup>21</sup> At p 131 -132.

policy for a very long time. Both views suggest that our current theoretical understanding of how macro-economics work is seriously flawed. Recent events would tend to demonstrate that something is clearly amiss. The Tragedy of the Commons analysis has never been successfully refuted, and yet, to date, little has been done to internalize the cost of continued economic exploitation of our finite resources. Will we revert to co-operative and altruistic behaviours that Wilson says our evolutionary past has designed us for; or will greed and short term gain prevail? Will short term pain prevent long term planning? Will we merely attempt to re - jig the system so that we can continue to seek endless economic growth - with the inevitable result both mathematics and history suggest must result, or will we use this crisis to re-evaluate our course and create a truly "New Economy" based not on short term reward, but long term sustainability? The answer to these questions will have profound influence on what happens, not only to our children, but maybe to many of us who thought these were the exclusive problems of future generations.