

ISSUES IN PERSPECTIVE

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PERSPECTIVE NUMBER ONE

Certainty and Science

Generally, when a 21st century person thinks of science, he/she thinks of certainty, truth or the realm of the absolute. One of the axioms of modern science that has been declared to be certain and absolute is the speed of light. And an absolute in Einstein's theory of relativity is the absolute prohibition of speed faster than light. Einstein predicted that time slows down and mass increases as one approaches the speed of light—and this axiom has been verified many times. Thus, as the velocity of a mass increases, that mass approaches infinity and time dilates, making it progressively more difficult to achieve light speed. That was the certainty, until early this fall.

Scientists at the supercollider at CERN in Geneva [Europe's main particle-physics laboratory] announced on 23 September 2011 that subatomic particles called neutrinos fired from CERN outside Geneva to Gran Sasso, Italy (450 miles away) took less time (60 nanoseconds [i.e., 60-billionths of a second] less) than light to get there. In other words, these scientists have discovered a particle that can travel faster than light. These scientists were so astonished at their discovery that they re-checked the experiment and evaluated every possible error but could find none. Hence, they immediately requested that other labs around the world replicate this experiment. In his usual pithy manner, columnist Charles Krauthammer has observed that this “means that Einstein's relativity—a theory of uncommon beauty upon which all of physics has been built for 100 years—is wrong. Not just inaccurate. Not just flawed. But deeply, fundamentally, indescribably wrong. . . [If true] then everything changes. We shall need a new physics. A new cosmology. New understandings of past and future, of cause and effect.”

If verified and considered to be in fact true, this discovery will necessitate a complete re-writing of our understanding of the universe. But as Chuck Colson recently argued, we really do not understand much about the universe. “For example, only 17% of the matter of the universe can be accounted for by our ‘understanding of the universe.’ We can only infer the existence of the other 83%, known as ‘dark matter,’ from the speed at which galaxies rotate and the way that they cluster.” Thus, a significant part of the universe is actually a mystery to us. That there is so much mystery does not negate or diminish the value of science; it simply means that humility and caution are needed when it comes to theories about how things work and explanations about cause and effect in this world. In conclusion, it is quite likely that there was a measuring or equipment error at CERN that will explain this faster-than-the-speed-of-light- neutrino. But perhaps there was no error. Regardless of what further investigation demonstrates, this we know: Science is not ultimate authority for truth. Only God can claim that.

In a class I have taught for many years, I walk my students through an exercise that demonstrates that indeed all truth is God's truth:

- Because God is the Author of all that is and the infinite Knower of all that is, then God is the ultimate Author of all truth.
- God possesses or knows all truth.
- All truth is unified in the infinite mind of God.
- Therefore, God is interested in humanity's pursuit of truth and as humanity thinks correctly about God and His world, it thinks as the Creator does. In effect, humanity has the inestimable privilege of thinking God's thoughts after Him. How marvelous!

See "Breakpoint" (6 October 2011); *The Economist* (1 October 2011), pp. 15, 85-86; and Charles Krauthammer in the *Washington Post* (7 October 2011).

PERSPECTIVE NUMBER TWO

The Science of Climate Change

Robert Bryce of the Manhattan Institute has written a most helpful article entitled "Five Truths about Climate Change." Because there is so much hype and emotional baggage surrounding this topic, it is always refreshing when you read something that is balanced and insightful. To that end, I want to use Bryce's essay as the basis for this *Perspective*.

Bryce acknowledges the reality of a global change in temperatures but, in doing so, he simply presents factual data and observations that place an issue like this in a helpful perspective. Here is a summary of his argument:

1. Carbon-dioxide emissions have been the environmental issue of the past decade. Former Vice President, Al Gore, focused rather powerfully during this past decade on carbon emissions as the singular most important cause of the increase in global temperatures. The Intergovernmental Panel on Climate Change basically agreed. Worldwide there was talk of a global tax or placing limits on carbon dioxide. There were promises, for example, from the world community when it gathered in Copenhagen in 2009 but there was no decisive action on either a tax or limits on carbon dioxide. So, during this past decade, carbon emissions rose by 28%. As Bryce observes, "those increases reflect soaring demand for electricity, up by 36%, which in turn fostered a 47% increase in coal consumption. (Natural gas use increased by 29% while oil use grew by 13%.) Carbon-dioxide emissions are growing because people around the world understand the essentiality of electricity to modernity. And for many countries, the cheapest way to produce electricity is by burning coal."
2. Regardless of the cause of the global increase in temperatures, the world simply must produce a great deal more energy to remain productive and comfortable. And right now the vast majority of that energy need comes from hydrocarbons.
3. The carbon-dioxide issue is not about the United States anymore. During the past decade, carbon-dioxide emissions in the US fell by 1.7%, and, according to the International Energy Agency, the US is now cutting carbon emissions faster than Europe, even though the European Union has instituted an elaborate carbon-trading, pricing scheme. Simply put, the

US is producing vast quantities of cheap natural gas from shale, which is displacing higher-carbon coal. In contrast, China's carbon emissions jumped by 123% over the past decade, surpassing the US by more than 2 billion tons per year. Africa's carbon-dioxide emissions jumped by 40%, Asia's by 44% and the Middle East's by 57%! Thus, even if you omitted the US from all carbon-emissions usage, the use of carbon worldwide would have gone up.

4. The world must become more efficient in its energy production—and it is. Today's best natural gas fired turbines have thermal efficiencies of 60% (compared with the original turbines of Thomas Edison, which converted less than 3% of the heat energy of the coal being burned into electricity). Bryce argues that “nearly all of the things we use on a daily basis—light bulbs, computers, automobiles—are vastly more efficient than they were just a few years ago.”
5. If we accept the proposition that carbon emissions are bad, it is not really that clear exactly what we should do about this. For example, Tom Wigley of the National Center for Atmospheric Research in Boulder recently published a report that determined “switching from coal to natural gas would do little for the global climate.” Wigley discovered that particulates put into the atmosphere by coal-fired power plants, “although detrimental to the environment, cool the planet by blocking incoming sunlight.” Thus, using energy sources that emit no particulates, like nuclear or natural gas, will not make a major difference in averting near-term changes in the climate caused by carbon dioxide. It also follows that widespread use of renewable energy (e.g., wind and solar energy) will not make a difference either. The bottom line of much of this discussion is that those who are so critical of carbon emissions really have no credible alternatives to replace the hydrocarbons that now provide 87% of the world's energy.

Every now and then, we must step back and ascertain what the truth is about climate change and carbon emissions. Robert Bryce has done so in his essay. Our world is dependent on hydrocarbons for its energy sources. There is nothing currently on the horizon that will alter this simple fact.

See Bryce's essay in the *Wall Street Journal* (6 October 2011).

PERSPECTIVE NUMBER THREE

Reflections on the Occupy Wall Street Movement

One of the more perplexing aspects of our culture right now is the Occupy Wall Street movement. Questions about this movement abound, most important of which are what exactly does this movement want? What are the action points they are demanding? Are they advocating a collectivist agenda, where the state forcibly redistributes wealth? Are they demanding that the state employ people that cannot find work? Are they demanding that the state punish all bankers and all real estate brokers? Is there an agenda? Whatever their demands, this group of demonstrators in New York and in other major cities around the world loathes what they call the “undeserving rich.” They disparage the Wall Street types, as overpaid and undeserving. Bankers are also a likely target, for “after all they are the ones who got us into this mess!” So, it

seems that the growing economic inequality (in the US and worldwide) is at the bottom of their concern and rage. Economic inequality has, in effect, become the new political faultline in the US. How should we think about all this?

The economist, Robert Samuelson, has written a helpful essay about economic inequality in the US and other nations. He comments on three generalizations:

1. From 1945 to the late 1970s, the richest 10% of Americans accounted for about 33% to 35% of total income, including capital gains (mostly the stock market). By 2007, their share was 50%. Most of that gain went to the richest 1%, whose share rose from about 10% in 1980 to 24% in 2007.
2. Such disparity is a global phenomenon. In a 2008 study, the Organization for Economic Cooperation and Development (OECD) found that inequality had increased for 17 out of 22 countries over two decades. In Sweden and Denmark, the richest 10% have incomes about five times greater than those of the poorest 10%. In the US, the ratio is 14 to 1. The OECD average is 9 to 1. Mexico has the highest, 27 to 1.
3. The rich of the US do not escape taxation. In 2007, the richest 10% paid 55% of all federal taxes. The richest 1% paid the lion's share of that: 28.1% of federal taxes. The average tax rate on the top 1% was 29.5%. [Also important is that the richest 3% account for 36% of all charitable contributions in the US.]

Perhaps Samuelson's most helpful comments focus on who the rich actually are in America. They are not all pampered CEOs, investment bankers, pop stars or athletes. Many own small and medium-sized companies. Half of the wealth of the richest 1% consists of stakes in these types of firms. That is double the holdings in stocks, bonds and mutual funds. In short, to simply tax these folks who are supposed to create jobs does not make sense. Samuelson asks then these probing and penetrating questions: "Are the rich to be punished for succeeding or merely asked to pay their 'fair share?' Who is wealthy or who is just well-off? Is \$250,000 a reasonable cutoff for couples, as Obama once indicated, or has that been repudiated? If taxes do rise, what approach would best preserve incentives for hard work, investment and risk-taking? Are Obama's assaults on wealthy business leaders just desserts or political cheap shots?"

As with most things in life, superficial generalizations, which are characteristic of the current debate about the wealthy, do not really make much sense. Nor are such generalizations really that helpful in producing meaningful solutions to major issues, such as the issue of economic inequality. This new political faultline of economic inequality will be a major talking point of the 2012 presidential campaign. As Samuelson has shown, to simply advocate "taxing the rich" as a solution to the nation's economic problems, especially the reality of economic inequality, solves nothing. Our nation's leaders must debate and discuss an overhaul of our cumbersome and incredibly inefficient and ineffective tax code. That debate then would include meaningful and constructive discussions about tax rates, equity and preserving incentives for genuine risk-taking and hard work. What is occurring now in the Occupy Wall Street movement is neither constructive nor beneficial. It is rhetoric and does not advance the cause of meaningful debate on a very important issue.

See Samuelson's essay in the *Washington Post* (10 October 2011).