

July 10, 2013

Instead of Prez Bystander or Prez Pick-and-Choose, George Will thinks 'President Never Mind' is an apt description.

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*Never mind that the law stipulates 2014 as the year when employers with 50 full-time workers are mandated to offer them health-care coverage or pay fines. Instead, 2015 will be the year. Unless Democrats see a presidential election coming.*

*This lesson in the Obama administration's approach to the rule of law is pertinent to the immigration bill, which at last count had 222 instances of a discretionary "may" and 153 of "waive." Such language means that were the Senate bill to become law, the executive branch would be able to do pretty much as it pleases, even to the point of saying about almost anything: Never mind.*

Thomas Sowell completed a four part series on the mindset of the left. Part one deals with their refusal to acknowledge the existence of evil.

*... At least as far back as the 18th century, the left has struggled to avoid facing the plain fact of evil — that some people simply choose to do things that they know to be wrong when they do them. Every kind of excuse, from poverty to an unhappy childhood, is used by the left to explain and excuse evil.*

*All the people who have come out of poverty or unhappy childhoods, or both, and become decent and productive human beings, are ignored. So are the evils committed by people raised in wealth and privilege, including kings, conquerors and slaveowners.*

*Why has evil been such a hard concept for many on the left to accept? The basic agenda of the left is to change external conditions. But what if the problem is internal? What if the real problem is the cussedness of human beings?*

*Rousseau denied this in the 18th century and the left has been denying it ever since. Why? Self preservation.*

*If the things that the left wants to control — institutions and government policy — are not the most important factors in the world's problems, then what role is there for the left? ...*

Part Two of Thomas Sowell's series covers the left's policies that keep people in poverty.

*... "Poverty" once had some concrete meaning — not enough food to eat or not enough clothing or shelter to protect you from the elements, for example. Today it means whatever the government bureaucrats, who set up the statistical criteria, choose to make it mean. And they*

*have every incentive to define poverty in a way that includes enough people to justify welfare state spending.*

*Most Americans with incomes below the official poverty level have air-conditioning, television, own a motor vehicle and, far from being hungry, are more likely than other Americans to be overweight. But an arbitrary definition of words and numbers gives them access to the taxpayers' money.*

*This kind of "poverty" can easily become a way of life, not only for today's "poor," but for their children and grandchildren.*

*Even when they have the potential to become productive members of society, the loss of welfare state benefits if they try to do so is an implicit "tax" on what they would earn that often exceeds the explicit tax on a millionaire.*

*If increasing your income by \$10,000 would cause you to lose \$15,000 in government benefits, would you do it?*

*In short, the political left's welfare state makes poverty more comfortable, while penalizing attempts to rise out of poverty. ...*

**Part Three** traces the origins of left foolishness to 18th century France.

*... Some of the most sweeping and spectacular rhetoric of the left occurred in 18th century France, where the very concept of the left originated in the fact that people with certain views sat on the left side of the National Assembly.*

*The French Revolution was their chance to show what they could do when they got the power they sought. In contrast to what they promised — "liberty, equality, fraternity" — what they actually produced were food shortages, mob violence and dictatorial powers that included arbitrary executions, extending even to their own leaders, such as Robespierre, who died under the guillotine.*

*In the 20th century, the most sweeping vision of the left — Communism — spread over vast regions of the world and encompassed well over a billion human beings. Of these, millions died of starvation in the Soviet Union under Stalin and tens of millions in China under Mao.*

*Milder versions of socialism, with central planning of national economies, took root in India and in various European democracies.*

*If the preconceptions of the left were correct, central planning by educated elites with vast amounts of statistical data at their fingertips, expertise readily available, and backed by the power of government, should have been more successful than market economies where millions of individuals pursued their own individual interests willy-nilly. ...*

**Dr. Sowell** closes with his own experiences.

*At the heart of the left's vision of the world is the implicit assumption that high-minded third parties like themselves can make better decisions for other people than those people can make for themselves.*

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**The Economist** explains why diesel engines are becoming more popular.

*NOT to belittle the success Tesla Motors has had with its Model S luxury electric car—outselling its petrol-powered equivalents since being launched last year—the prospects for battery-powered vehicles generally may never shine quite as bright again. Babbage believes their day in the sun is about to be eclipsed by, wait for it, the diesel engine.*

*Surely not that dirty, noisy, smelly, lumbering lump of a motor that was difficult to start in the winter? Certainly not. A whole new generation of sprightly diesels—developed over the past few years—bear no resemblance to your father's clattering, oil-burner of an Oldsmobile. It is no exaggeration to say that, with its reputation for unreliability and anaemic performance, the Olds 4.3-litre diesel from the late 1970s single-handedly destroyed the reputation of diesel engines in America for decades to come. Quite possibly, it also contributed to Oldsmobile's own demise.*

*Later this year, Americans will get their first chance to experience what a really advanced diesel is like—and why Europeans opt for diesels over hybrids, plug-in electrics and even petrol-powered cars. The leader of the new pack is the Mazda 6, completely redesigned for 2014, with the choice of either a 2.5-litre four-cylinder petrol engine or a 2.2-litre turbo-charged diesel. The diesel has 30% better fuel economy and provides oodles more pulling power. Good as the petrol version is, motorists who choose it over the diesel will miss out on a lot.*

*Mazda is not the only motor manufacturer with an advanced diesel in the works. Among others, Mitsubishi Motors has been selling cars with a new generation of 1.8-litre and 2.2-litre diesel engines in Europe since 2010. Hedging its bets on hybrids, Toyota has also been testing several radically new diesel designs.*

*What marks this latest generation of diesel engines from even their “common-rail” predecessors of the late 1990s, let alone their belching ancestors from the 1970s, is the use of a surprisingly low compression ratio of around 14-to-1 rather than the more usual 16-to-1 or higher. The reduction in cylinder pressure may sound marginal, but it gives rise to a virtuous cycle of beneficial effects unavailable before. ...*

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## Washington Post

### [Obama's never-mind presidency](#)

by George F. Will

At this intermission in the immigration debate, with [House Republicans preparing](#) to look askance at the Senate's handiwork, the argument is becoming ever stranger. It has reached a boil, especially concerning border security, at a moment when illegal entries are at a [40-year low](#) and [net immigration from Mexico](#) has recently been approximately zero, largely because enforcement efficiency has already been substantially improved and because America's economic growth is inferior to Mexico's. Yet some Senate Republicans support spending \$46 billion over 10 years to, among other things, double the number of border agents.

The Government Accountability Office says border security in 2011 was about 84 percent effective. A much-discussed aspiration is 90 percent. So the \$46 billion is supposed to purchase a six-point improvement. This embarrassing militarization of the border was designed to entice a few of the 14 Senate Republicans (of 46) who joined all Democrats in supporting the Senate bill. Some senators expect House Republicans to be swayed because a minority of the Senate minority supported the bill. These senators should trek to the other side of the Capitol and, like Margaret Mead among the Samoans, mingle with the natives.

On a Friday, the Senate received a 114-page amendment to the (by then) more than 1,000-page “Gang of Eight” bill, which the Senate passed the following Thursday. Senators can repent at leisure after they read details such as: Never mind what maps say, the Senate says Nevada is a border state. So Majority Leader Harry Reid's constituents, and those of Nevada's Republican Sen. Dean Heller, who supported the bill, can feast on border-security pork.

Such provisions reflect an imperative of legislating in a continental nation. Because durable, principle-based congressional majorities are rare, legislation often becomes large and complex through the process of cobbling together a coalition of legislators more attuned to parochial interests than philosophical arguments. Logrolling is necessary to this process, but it necessarily reduces the moral momentum of the final product.

Whatever momentum the Senate imparted to reform is a wasted asset. The House is unlikely to complete its immigration legislation before the August recess, when Republican members will return to their districts, about which [the Wall Street Journal says](#): Only 38 of 234 House Republicans — 16 percent — represent districts that are at least 20 percent Hispanic. And “only 28 Republican-held districts are considered even remotely at risk of being contested by a Democratic challenger.” Democrats will not accept a bill that does not provide a path to

citizenship for illegal immigrants, and in a recent poll, almost half of Republicans said they were less likely to support a legislator who supports a pathway.

Four Augusts ago, Congress was busy passing — in order to find out what was in it — a different mammoth, because “comprehensive,” bill. During the August 2009 recess, legislators conducted often-tumultuous town hall meetings, where they discovered that intensity resided disproportionately among opponents of the Patient Protection and Affordable Care Act (PPACA). Opponents’ anger was registered emphatically in congressional elections 15 months later, which is one reason why implementation of the act’s most onerous provisions was delayed until 2014, after the 2012 presidential election.

The PPACA remains unpopular, and there are congressional elections in years divisible by two — not even the Obama administration can ignore that constitutional fact — so last Tuesday, the administration said this about the act’s mandate that in 2014, large employers provide expensive health-care coverage for their workers or pay a substantial penalty: Never mind.

Although the Constitution has no Article VIII, the administration acts as though there is one that reads: “Notwithstanding all that stuff in other articles about how laws are made, if a president finds a law politically inconvenient, he can simply post on the White House Web site a notice saying: Never mind.”

Never mind that the law stipulates 2014 as the year when employers with 50 full-time workers are mandated to offer them health-care coverage or pay fines. Instead, 2015 will be the year. Unless Democrats see a presidential election coming.

This lesson in the Obama administration’s approach to the rule of law is pertinent to the immigration bill, which at last count had 222 instances of a discretionary “may” and 153 of “waive.” Such language means that were the Senate bill to become law, the executive branch would be able to do pretty much as it pleases, even to the point of saying about almost anything: Never mind.

## **Jewish World Review**

### **[The Mindset of the Left](#)**

by Thomas Sowell

When teenage thugs are called "troubled youth" by people on the political left, that tells us more about the mindset of the left than about these young hoodlums.

Seldom is there a speck of evidence that the thugs are troubled, and often there is ample evidence that they are in fact enjoying themselves, as they create trouble and dangers for others.

Why then the built-in excuse, when juvenile hoodlums are called "troubled youth" and mass murderers are just assumed to be "insane"?

At least as far back as the 18th century, the left has struggled to avoid facing the plain fact of evil — that some people simply choose to do things that they know to be wrong when they do

them. Every kind of excuse, from poverty to an unhappy childhood, is used by the left to explain and excuse evil.

All the people who have come out of poverty or unhappy childhoods, or both, and become decent and productive human beings, are ignored. So are the evils committed by people raised in wealth and privilege, including kings, conquerors and slaveowners.

Why has evil been such a hard concept for many on the left to accept? The basic agenda of the left is to change external conditions. But what if the problem is internal? What if the real problem is the cussedness of human beings?

Rousseau denied this in the 18th century and the left has been denying it ever since. Why? Self preservation.

If the things that the left wants to control — institutions and government policy — are not the most important factors in the world's problems, then what role is there for the left?

What if it is things like the family, the culture and the traditions that make a more positive difference than the bright new government "solutions" that the left is constantly coming up with? What if seeking "the root causes of crime" is not nearly as effective as locking up criminals? The hard facts show that the murder rate was going down for decades under the old traditional practices so disdained by the left intelligentsia, before the bright new ideas of the left went into effect in the 1960s — after which crime and violence skyrocketed.

What happened when old-fashioned ideas about sex were replaced in the 1960s by the bright new ideas of the left that were introduced into the schools as "sex education" that was supposed to reduce teenage pregnancy and sexually transmitted diseases?

Both teenage pregnancy and sexually transmitted diseases had been going down for years. But that trend suddenly reversed in the 1960s and hit new highs.

One of the oldest and most dogmatic of the crusades of the left has been disarmament, both of individuals and of nations. Again, the focus of the left has been on the externals — the weapons in this case.

If weapons were the problem, then gun control laws at home and international disarmament agreements abroad might be the answer. But if evil people who care no more for laws or treaties than they do for other people's lives are the problem, then disarmament means making decent, law-abiding people more vulnerable to evil people.

Since belief in disarmament has been a major feature of the left since the 18th century, in countries around the world, you might think that by now there would be lots of evidence to substantiate their beliefs.

But evidence on whether gun control laws actually reduce crime rates in general, or murder rates in particular, is seldom mentioned by gun control advocates. It is just assumed in passing that of course tighter gun control laws will reduce murders.

But the hard facts do not back up that assumption. That is why it is the critics of gun control who rely heavily on empirical evidence, as in books like "More Guns, Less Crime" by John Lott and "Guns and Violence" by Joyce Lee Malcolm.

National disarmament has an even worse record. Both Britain and America neglected their military forces between the two World Wars, while Germany and Japan armed to the teeth. Many British and American soldiers paid with their lives for their countries' initially inadequate military equipment in World War II.

But what are mere facts compared to the heady vision of the left?

## **Jewish World Review**

### **The Mindset of the Left: Part II**

by Thomas Sowell

The political left has long claimed the role of protector of "the poor." It is one of their central moral claims to political power. But how valid is this claim?

Leaders of the left in many countries have promoted policies that enable the poor to be more comfortable in their poverty. But that raises a fundamental question: Just who are "the poor"?

If you use a bureaucratic definition of poverty as including all individuals or families below some arbitrary income level set by the government, then it is easy to get the kinds of statistics about "the poor" that are thrown around in the media and in politics. But do those statistics have much relationship to reality?

"Poverty" once had some concrete meaning — not enough food to eat or not enough clothing or shelter to protect you from the elements, for example. Today it means whatever the government bureaucrats, who set up the statistical criteria, choose to make it mean. And they have every incentive to define poverty in a way that includes enough people to justify welfare state spending.

Most Americans with incomes below the official poverty level have air-conditioning, television, own a motor vehicle and, far from being hungry, are more likely than other Americans to be overweight. But an arbitrary definition of words and numbers gives them access to the taxpayers' money.

This kind of "poverty" can easily become a way of life, not only for today's "poor," but for their children and grandchildren.

Even when they have the potential to become productive members of society, the loss of welfare state benefits if they try to do so is an implicit "tax" on what they would earn that often exceeds the explicit tax on a millionaire.

If increasing your income by \$10,000 would cause you to lose \$15,000 in government benefits, would you do it?

In short, the political left's welfare state makes poverty more comfortable, while penalizing attempts to rise out of poverty. Unless we believe that some people are predestined to be poor, the left's agenda is a disservice to them, as well as to society. The vast amounts of money wasted are by no means the worst of it.

If our goal is for people to get out of poverty, there are plenty of heartening examples of individuals and groups who have done that, in countries around the world.

Millions of "overseas Chinese" emigrated from China destitute and often illiterate in centuries past. Whether they settled in Southeast Asian countries or in the United States, they began at the bottom, taking hard, dirty and sometimes dangerous jobs.

Even though the overseas Chinese were usually paid little, they saved out of that little, and many eventually opened tiny businesses. By working long hours and living frugally, they were able to turn tiny businesses into larger and more prosperous businesses. Then they saw to it that their children got the education that they themselves often lacked.

By 1994, the 57 million overseas Chinese created as much wealth as the one billion people living in China.

Variations on this social pattern can be found in the histories of Jewish, Armenian, Lebanese and other emigrants who settled in many countries around the world — initially poor, but rising over the generations to prosperity. Seldom did they rely on government, and they usually avoided politics on their way up.

Such groups concentrated on developing what economists call "human capital" — their skills, talents, knowledge and self discipline. Their success has usually been based on that one four-letter word that the left seldom uses in polite society: "work."

There are individuals in virtually every group who follow similar patterns to rise from poverty to prosperity. But how many such individuals there are in different groups makes a big difference for the prosperity or poverty of the groups as a whole.

The agenda of the left — promoting envy and a sense of grievance, while making loud demands for "rights" to what other people have produced — is a pattern that has been widespread in countries around the world.

This agenda has seldom lifted the poor out of poverty. But it has lifted the left to positions of power and self-aggrandizement, while they promote policies with socially counterproductive results.

## **Jewish World Review**

### **[The Mindset of the Left: Part III](#)**

by Thomas Sowell

The fundamental problem of the political left seems to be that the real world does not fit their preconceptions. Therefore they see the real world as what is wrong, and what needs to be changed, since apparently their preconceptions cannot be wrong.



A never-ending source of grievances for the left is the fact that some groups are "over-represented" in desirable occupations, institutions and income brackets, while other groups are "under-represented."

From all the indignation and outrage about this expressed on the left, you might think that it was impossible that different groups are simply better at different things.

Yet runners from Kenya continue to win a disproportionate share of marathons in the United States, and children whose parents or grandparents came from India have won most of the American spelling bees in the past 15 years. And has anyone failed to notice that the leading professional basketball players have for years been black, in a country where most of the population is white?

Most of the leading photographic lenses in the world have — for generations — been designed by people who were either Japanese or German. Most of the leading diamond-cutters in the world have been either India's Jains or Jews from Israel or elsewhere.

Not only people but things have been grossly unequal. More than two-thirds of all the tornadoes in the entire world occur in the middle of the United States. Asia has more than 70 mountain peaks that are higher than 20,000 feet and Africa has none. Is it news that a disproportionate share of all the oil in the world is in the Middle East?

Whole books could be filled with the unequal behavior or performances of people, or the unequal geographic settings in which whole races, nations and civilizations have developed. Yet the preconceptions of the political left march on undaunted, loudly proclaiming sinister reasons why outcomes are not equal within nations or between nations.

All this moral melodrama has served as a background for the political agenda of the left, which has claimed to be able to lift the poor out of poverty and in general make the world a better place. This claim has been made for centuries, and in countries around the world. And it has failed for centuries in countries around the world.

Some of the most sweeping and spectacular rhetoric of the left occurred in 18th century France, where the very concept of the left originated in the fact that people with certain views sat on the left side of the National Assembly.

The French Revolution was their chance to show what they could do when they got the power they sought. In contrast to what they promised — "liberty, equality, fraternity" — what they actually produced were food shortages, mob violence and dictatorial powers that included arbitrary executions, extending even to their own leaders, such as Robespierre, who died under the guillotine.

In the 20th century, the most sweeping vision of the left — Communism — spread over vast regions of the world and encompassed well over a billion human beings. Of these, millions died of starvation in the Soviet Union under Stalin and tens of millions in China under Mao.

Milder versions of socialism, with central planning of national economies, took root in India and in various European democracies.

If the preconceptions of the left were correct, central planning by educated elites with vast amounts of statistical data at their fingertips, expertise readily available, and backed by the power of government, should have been more successful than market economies where millions of individuals pursued their own individual interests willy-nilly.

But, by the end of the 20th century, even socialist and communist governments began abandoning central planning and allowing more market competition. Yet this quiet capitulation to inescapable realities did not end the noisy claims of the left.

In the United States, those claims and policies reached new heights, epitomized by government takeovers of whole sectors of the economy and unprecedented intrusions into the lives of Americans, of which ObamaCare has been only the most obvious example

## **Jewish World Review**

### **The Mindset of the Left: Part IV**

by Thomas Sowell

At the heart of the left's vision of the world is the implicit assumption that high-minded third parties like themselves can make better decisions for other people than those people can make for themselves.

That arbitrary and unsubstantiated assumption underlies a wide spectrum of laws and policies over the years, ranging from urban renewal to ObamaCare.

One of the many international crusades by busybodies on the left is the drive to limit the hours of work by people in other countries — especially poorer countries — in businesses operated by multinational corporations. One international monitoring group has taken on the task of making sure that people in China do not work more than the legally prescribed 49 hours per week.

Why international monitoring groups, led by affluent Americans or Europeans, would imagine that they know what is best for people who are far poorer than they are, and with far fewer options, is one of the many mysteries of the busybody elite.

As someone who left home at the age of 17, with no high school diploma, no job experience and no skills, I spent several years learning the hard way what poverty is like. One of the happier times during those years was a brief period when I worked 60 hours a week — 40 hours delivering telegrams during the day and 20 hours working part-time in a machine shop at night.

Why was I happy? Because, before finding these jobs, I had spent weeks desperately looking for any job, while my meager savings dwindled down to literally my last dollar, before finally finding the part-time job at night in a machine shop.

I had to walk several miles from the rooming house where I lived in Harlem to the machine shop located just below the Brooklyn Bridge, in order to save that last dollar to buy bread until I got a payday.

When I then found a full-time job delivering telegrams during the day, the money from the two jobs combined was more than I had ever made before. I could pay the back rent I owed on my room and both eat and ride the subways back and forth to work.

I could even put aside some money for a rainy day. It was the closest thing to nirvana for me.

Thank heaven there were no busybodies to prevent me from working more hours than they thought I should.

There was a minimum wage law, but this was 1949 and the wages set by the Fair Labor Standards Act of 1938 had been rendered meaningless by years of inflation. In the absence of an effective minimum wage law, unemployment among black teenagers in the recession year of 1949 was a fraction of what it would be in even the most prosperous years of the 1960s and beyond.

As the morally anointed busybodies raised the minimum wage rate, beginning in the 1950s, black teenage unemployment skyrocketed. We have now become so used to tragically high rates of unemployment among this group that many people have no idea that things were not always like that, much less that policies of the busybody left had such catastrophic consequences.

I don't know what I would have done if such busybody policies had been in effect back in 1949, and prevented me from finding a job before my last dollar ran out.

My personal experience is just one small example of what it is like when your options are very limited. The prosperous busybodies of the left are constantly promoting policies which reduce the existing options of poor people even more.

It would never occur to the busybodies that multinational corporations are expanding the options of the poor in third world countries, while busybody policies are contracting their options.

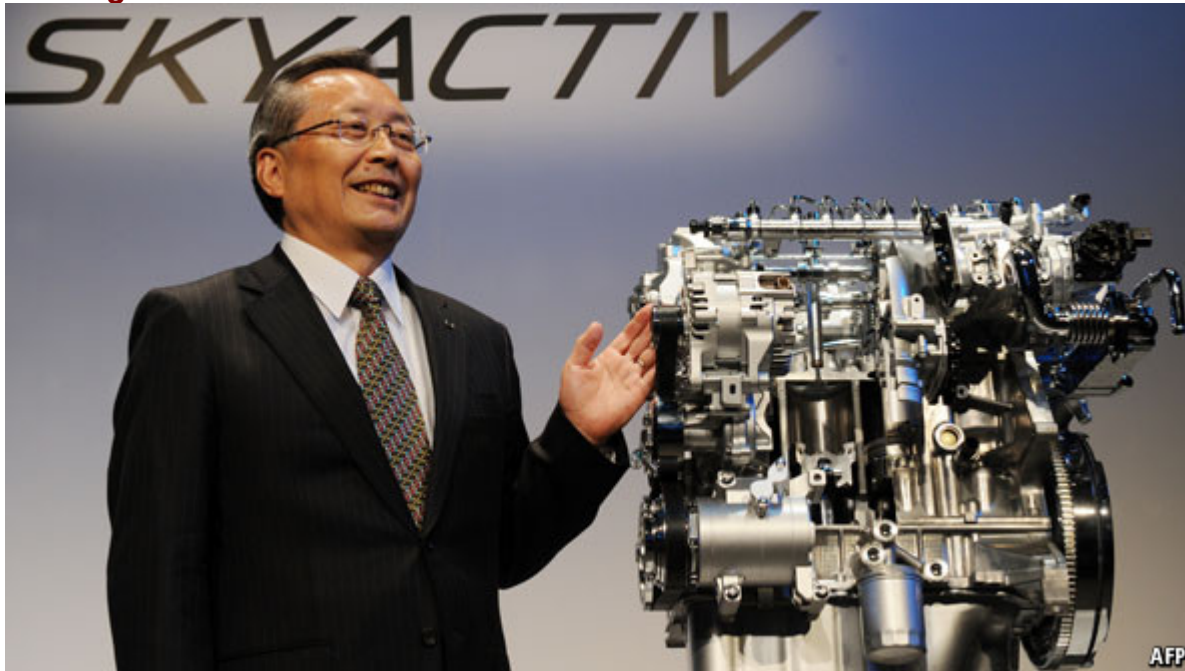
Wages paid by multinational corporations in poor countries are typically much higher than wages paid by local employers. Moreover, the experience that employees get working in modern companies make them more valuable workers and have led in China, for example, to wages rising by double-digit percentages annually.

Nothing is easier for people with degrees to imagine that they know better than the poor and uneducated. But, as someone once said, "A fool can put on his coat better than a wise man can put it on for him."

## The Economist

### Diesels

#### *Born again*



NOT to belittle the success Tesla Motors has had with its Model S luxury electric car—outselling its petrol-powered equivalents since being launched last year—the prospects for battery-powered vehicles generally may never shine quite as bright again. Babbage believes their day in the sun is about to be eclipsed by, wait for it, the diesel engine.

Surely not that dirty, noisy, smelly, lumbering lump of a motor that was difficult to start in the winter? Certainly not. A whole new generation of sprightly diesels—developed over the past few years—bear no resemblance to your father’s clattering, oil-burner of an Oldsmobile. It is no exaggeration to say that, with its reputation for unreliability and anaemic performance, the Olds 4.3-litre diesel from the late 1970s single-handedly destroyed the reputation of diesel engines in America for decades to come. Quite possibly, it also contributed to Oldsmobile’s own demise.

Later this year, Americans will get their first chance to experience what a really advanced diesel is like—and why Europeans opt for diesels over hybrids, plug-in electrics and even petrol-powered cars. The leader of the new pack is the Mazda 6, completely redesigned for 2014, with the choice of either a 2.5-litre four-cylinder petrol engine or a 2.2-litre turbo-charged diesel. The diesel has 30% better fuel economy and provides oodles more pulling power. Good as the petrol version is, motorists who choose it over the diesel will miss out on a lot.

Mazda is not the only motor manufacturer with an advanced diesel in the works. Among others, Mitsubishi Motors has been selling cars with a new generation of 1.8-litre and 2.2-litre diesel engines in Europe since 2010. Hedging its bets on hybrids, Toyota has also been testing several radically new diesel designs.

What marks this latest generation of diesel engines from even their “common-rail” predecessors of the late 1990s, let alone their belching ancestors from the 1970s, is the use of a surprisingly low compression ratio of around 14-to-1 rather than the more usual 16-to-1 or higher. The

reduction in cylinder pressure may sound marginal, but it gives rise to a virtuous cycle of beneficial effects unavailable before.

For a start, the lower cylinder pressure reduces thermal and mechanical stresses in the engine. As a result, the heavy cast-iron block traditionally needed to stop a diesel ripping itself apart can be replaced with a lighter aluminium casting. That trims 25kg (55lb) off the block of the new Mazda diesel. Lower cylinder pressures mean that pistons, rings, valves, crankshaft and other engine parts can also be made 25% lighter. And because they are weighed down less by a lump of an engine, the vehicle's brakes, suspension components and bodywork do not need to be quite so rugged either. All these weight savings translate into greater efficiency. According to Ricardo, an engineering consultancy, every 10% reduction in a family car's weight boosts its fuel economy by more than 4%.

Another benefit of lower cylinder pressure is that the lighter moving parts in the engine generate less internal friction—improving efficiency still further. And having less inertia, they allow the engine to spin faster and more freely, which also contributes to efficiency. Mazda's new "Skyactiv-D" engine winds up to 5,200 revolutions per minute, a figure previously unheard of among road-going diesels.

All told, the improvement in engine efficiency more than compensates for any loss of power caused by lowering the diesel's compression ratio. As it is, diesels start off by being 30-35% more efficient than petrol engines. The new breed of low-compression diesels is likely to be even more so.

There are benefits on the emissions side as well. In a typical diesel engine, ignition is caused not by a set of spark-plugs firing sequentially but by the heat of the air being squeezed in the cylinders. The timing of this auto-ignition is controlled by the injectors, which squirt precise amounts of fuel under extremely high pressure into each cylinder exactly as needed. For maximum efficiency, this is done just as the pistons arrive at the top of their stroke and the cylinder pressure is at its highest.

Unfortunately, the fuel and air at top dead-centre are rarely mixed as thoroughly as necessary for complete combustion. And because ignition takes place in the presence of a surplus of oxygen (from the highly compressed air), this incomplete combustion produces soot particles and smog-forming nitrogen oxides—the curse of traditional diesel engines.

Modern clean diesels trade some of their power for improved combustion. They do so by delaying the injection of the fuel until the piston begins to move back down the cylinder. The delay and the falling pressure give the fuel a chance to blend with the air better. Even so, clean diesels still need an expensive catalytic-reduction system that injects a solution of urea into the exhaust to mop up the nitrogen oxides. They also need particulate traps to capture the soot.

Going to a lower compression ratio avoids much of this. Not only can the fuel be burned without difficulty at the cylinder's top dead-centre, but the urea-injection system, with its tank that has to be refilled every six months or so, is no longer required.

Meanwhile, the diesel's old bugbear of poor starting in cold weather has been licked by the adoption of piezoelectric fuel injectors with multiple nozzles, which can spray fuel in whatever pattern best suits the operating conditions. Also, because the valves on modern engines have variable lift and timing, the exhaust valves can be left slightly open as the engine is coughing

and spluttering during a particularly cold start. In doing so, hot exhaust gases sucked back into the cylinders help the engine to warm up quickly.

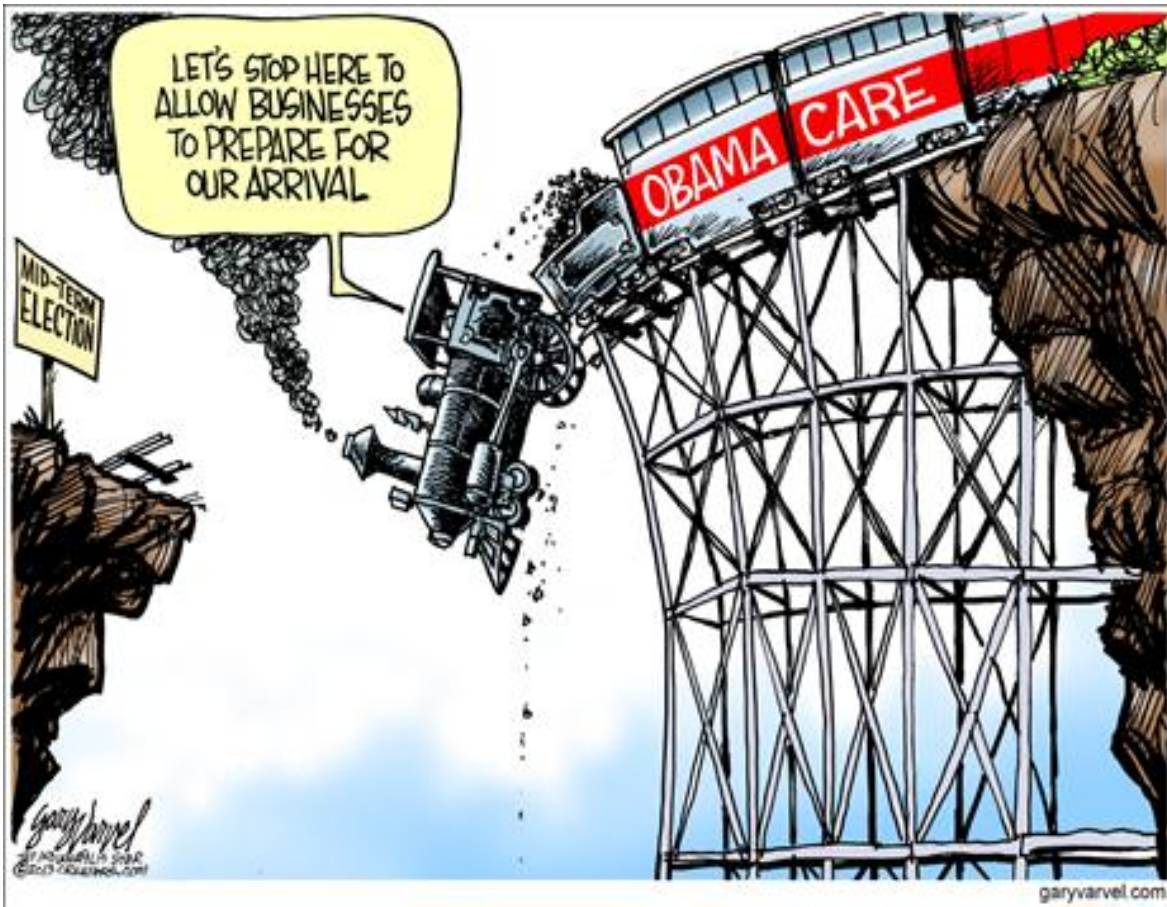
Babbage's first diesel car—a Volkswagen Golf he had in Britain half a lifetime ago—required the engine's glow-plug to warm the innards for a full minute or more before it would fire up in the morning. It would then chug away hesitantly while rattling like a can of nails. The last diesel he drove—a Mercedes E220 rented at Heathrow airport last year—had little of the noise, vibration and harshness long associated with diesels. So much so, he did not realise it was, indeed, a diesel until he stopped to refuel, and read the warning sign inside the filler flap.

Born again, the latest diesels promise to be even more refined, and still more difficult to distinguish from their petrol-powered cousins. Of course, the diesel's twin hallmarks will remain: the awesome mid-range torque and better fuel economy than comparable petrol-powered cars—and now even hybrids, too.

And this is just the beginning. Toyota has talked about applying all the know-how it has gleaned from its 2.2-litre low-compression diesel to yet smaller engines. Meanwhile, Mazda has an ultra-diesel under wraps which uses an unprecedented 8.5-to-1 compression ratio. Another of its diesels has internal parts so light that the engine will spin up to 7,000 revolutions per minute without a turbo-charger, and can meet America's 50-state emissions standard with no more than a conventional catalytic converter.

With its old 1.4-litre diesel engine, the Volkswagen Polo still holds the record for being the most frugal non-electric car in Britain and the rest of Europe—with a fuel economy on the combined cycle of just 3.8 litres/100km (equivalent to 61.9 miles per US gallon). The Toyota Prius hybrid? A lowly twentieth on the league table of the most economical fuel-sippers, with 4.2 litres/100km, along with higher emissions of carbon dioxide. The 19 cars having better fuel economy than the Prius hybrid are all clean diesels.

Babbage fully expects the new generation of clean, low-compression diesels to raise the fuel-economy bar by a further 20% or more. That will put diesels on much the same footing—on an equivalent miles-per-gallon basis—as many of the electric vehicles available today. Their big advantage will be that they will come with none of the range anxiety and recharging difficulties to worry about. Roll on the day



REMOVED FROM OFFICE  
BECAUSE HE ASSUMED  
ILLEGITIMATE POWERS,  
CIRCUMVENTED THE COURTS,  
MISMANAGED THE ECONOMY,  
AND PUSHED HIS COUNTRY  
IN A RADICAL DIRECTION.



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SO WHAT'S  
YOUR POINT?



I HEARD  
THERE WAS  
A GROUP OF  
'PATRIOTS'  
IN HERE.

JULY 4, 1776



AMERICAN THUNDERBOLT  
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