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Part 2: What We Must Learn from Social Credit

The following are extended excerpts from Understanding the Financial System: Social Credit Rediscovered *by Frances Hutchinson (Jon Carpenter Publishing, 2010).*

Chapter 3 — The Missing Economist

In the immediate aftermath of the First World War the Labour Party was just on the point of emerging as a major political force in UK politics. Trade Unionists, left-wing academics and potential politicians were being encouraged to study economics at institutions like the London School of Economics, founded in 1895, so that they could take their place in the establishment institutions of the nation state. At issue was the just or fair share of the proceeds of wealth creation due to the supposed creators of the wealth, the "workers" on the one hand, or the "capitalist" owners of land or capital on the other. Thus economics was used as the key to the justification for Labour's claim to a greater share of the wealth created by the capitalist system of industrialization. The party system lent itself to a polarized debate on the relative merits of the "working class" or the "capitalist class." In this scenario, Clifford Hugh Douglas' productions, based on his analysis of the institutions of finance, of economic depression and further world war were met with little enthusiasm. With hindsight, however, it is clear that Douglas's analysis provides a starting point for a comprehensive understanding of the workings of the economy as we knew it in the twentieth century. with all the drives to poverty amid plenty, ecological devastation, wasteful consumerism, and war.

The Financing of the First World War

Douglas' analysis of the relationship finance and the processes of production and distribution arose from his detailed study of the financing of the First World War. Before war broke out, lack of finance was the major obstacle to construction of socially necessary infrastructure. At the same time, goods and services needed by the consuming public could only be produced and distributed on terms dictated by the availability of finance. However, as Douglas observed, war "is a consumer whose necessities are so imperative that they become superior to all questions of legal and financial restriction." In war, to maintain a connection between finance and production, the situation has to be reversed. Finance has to follow production instead of, as in accepted normal practice, production following finance.

The National Debt rose between August 1914 and December 1919 from about six hundred and sixty million sterling to about seven thousand seven hundred million sterling. And this rise represents, on the whole, the expenditure over that period which it was deemed impractical to recover in current taxation.

Douglas estimates the average taxation for war purposes over the period 1914-1918 at about £300M per annum. Roughly speaking, the amount paid by the public as consumer for the goods and services supplied to it for war, over the period of war, was about £1,350M. The financial cost of those goods and services was about £8,350M, a ratio of cost to price of 1:6. In other words, goods were sold to the public at one-sixth of their apparent financial value. As Douglas explained, "a great deal of the necessary money was created by what are known as the Ways and Means Accounts, and the working of this is described in the first report of the Committee on Currency and Foreign Ex-

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FOUNDING EDITOR
John Hotson 1930–1996

PUBLISHER–EDITOR
William Krehm
(comerpub@rogers.com)

INFORMATION SECRETARY
Herb Wiseman (herbwise@cogeco.ca)

WEBMASTER
Tony Koch

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Social Credit *from page 1*

changes, 1918, page two." Douglas' paraphrase of the report appears in *Social Credit.* Writing in 1919, Douglas summarized the situation. A sum of about eight thousand million pounds was spent during the war on services rendered and paid for, on munitions of all kinds produced and used up, leaving a War Debt to be repaid.

Now, the services have been rendered, and the munitions expended, consequently, the loan represents a lien with interest on the future activities of the community, in favour of the holders of the loan. The community guarantees the holders to work for them without payment, for an indefinite period in return for services rendered. What are those services?

Disregarding holdings under £1,000 and re-investment of pre-war assets, the great bulk of the loan represents purchases by large industrial and financial undertakings obtained the money to buy at the expense of the community, through the agency of industrial accounting and bank finance.

Douglas concludes that the financier is usurping the function of the State in creating, in the form of debt, the credit necessary to fund the war. Credit is the possession of the community as a whole, and not that of a sectional interest group such as the bankers.

From his early observations of the financial mechanisms employed in the funding of the production of goods and services for the conduct of the First World War, Douglas developed his Social Credit analysis or the financing of production and distribution in "normal peace time." Throughout his writings Douglas stressed that blueprints and panaceas were to be avoided at all costs, since "every suggestion made in this connection has in view the maximum expansion of personal control of initiative and the minimization and final elimination of economic domination, either personal or through the agency of the State." In this, he was at complete variance with economic orthodoxy.

Economics in the Academy

Economics is the study of the monetized economy.… Thus the student embarking upon a study of economics is taught to distinguish between needs and wants. A need is a matter of opinion. A want, on the other hand, is a need *backed by money* so that it becomes a "demand," which is something scientifically recognizable. A demand is a measurable, non normative fact which can be studied by the economics profession and fed into models. Other factors, including human needs and environmental considerations can be factored in artificially as "external."

Economics studies the behaviour of 'economic man' in his pursuit of the maximization of satisfaction and minimization of effort: it is the science that deals with the production, distribution and consumption of material wealth *as measured by money.* According to economic theory, under division of labour in a perfectly free market, individuals will undertake a series of small tasks according to their skills and resources, to increase wealth. All have an obligation to participate in the general wealth creation, giving a corresponding right to a share of the increased wealth.

A number of "heterodox" schools of economics have evolved to challenge the basic assumptions of orthodoxy. Institutional/evolutionary economists factor in the existence of banking, legal, corporate and other institutional structures. Marxian economics follow Marx's development of the labour theory of value: as the capitalists appropriate surplus value from labour they accumulate wealth for future investment. Post-Keynesian economics explore macro-economic models, tending to reject the IS/LM (Investment Savings/Liquidity (preference) Money supply) model, but broadly accepting the basic tenets of economic orthodoxy. Feminist economics and environmental economics seeks to apply orthodox economic methodology to "women's" and "environmental" areas of concern. All these schools have raised fundamental issues about the relationship between the economy, the social orders and the natural order. Economists of all types and persuasions have dedicated their lifetimes to the subject, producing a wealth of literature which makes fascinating reading. This all too brief summary of the broad field of economics is not designed to dismiss the volume of significant study of the economy which has been produced over the past two centuries. It is rather to place the "missing link" of Douglas Social Credit economics within the broad context of the study of economics.

The "Circular Flow"

Broadly speaking, orthodox economics is the study of the allocation of *scarce* resources to the satisfaction of infinite wants. The economics student is first instructed in the "micro economics" *via* the "Law of Markets" or "Say's Law" which derives from the writings of the French businessman and economist,

Jean Baptiste Say (1767-1832).

According to this "Law," production creates its own demand: that is, when goods are produced and supplied to the market, the process automatically generates a demand for those goods.…

Households have what businesses demand, and businesses supply what households demand. People go to "work," supplying firms with labour land or capital if that is what they own) so that goods can be produced. According to this theory, recessions, recessions are not caused by a shortage of money, because the production of goods automatically distributes money, in the form of wages, salaries and dividends, with which to buy the goods. If demand is not sufficient, it may be because people are hoarding their money by saving it, or taxes are too high.

In that event, prosperity can only be increased by stimulating production, rather than consumption. The answer is not to create more money, because more money demanding the same quantity of goods does not create a real increase in demand: it merely results in inflation. In the face of the obvious fact of booms and slumps, modern Keynesian macro-economists have argued that Say's Law only applies when prices are fully flexible. In the short run, when prices are not flexible, a drop in aggregate demand can cause a recession. By the late twentieth century the obvious errors in even this interpretation of Say's original conceptualization of the "Circular Flow" have been noted by a few career economists. The circular flow model only conceivably "works" where both *time* and *money* are eliminated, so that exchange takes place under a barter system in which outputs remain exactly the same as inputs. It is an entirely static model: if anything changes, an entirely new frame has to be drawn.

The A + B Theorem

Douglas pointed out the obvious. Production takes place over *time*, and exchange takes place on the market *for money.* When these two facts are taken into account, it becomes necessary to view the "circular flow" more critically. At the point in time when businesses send finished consumer goods onto the market for sale, they have merely completed a process which may cover months or even years of the different stages from raw materials through to finished product, including the making of machines and the building of factories. Hence the wages, salaries, and dividends paid out *at the point* of sale will be less than the total prices of products going into the market *at that point in time.* Each business must cover the total costs of *past* production, or they will go out of business. The fact that a substantial part of the inputs to the firms do *not* come directly from the consuming "households," but take the form of capital or intermediate goods. drastically alters the usefulness of the circular flow concept. In Douglas' words:

"A factory or other productive organization has, besides its economic function; as a producer of goods, a financial aspect – it may be regarded on the one hand as a device for the distributing of purchasing power to individuals, through the distributing of purchasing power to individuals through wages, salaries and dividends; and on the other hand as a manufactory of prices – financial values. From this standpoint, the payments may be divided into two groups:

"Group A – All payments made to (wages, salaries, and dividends) other external costs).

"Group B – All payments to other organizations (raw materials, bank charges and other external costs).

"Now the rate of flow of purchasing power to individuals is represented by A, but since all payments go into prices, the rate of flow of prices cannot be less than A+B. Since A will not purchase A+B a proportion of the product at least equivalent to B must be distributed by a form of purchasing power which is not comprised in the Description grouped under A."

The above statement of the A+B Theorem, originally published in 1920, in *Credit-Power and Democracy,* was amplified in Douglas' Birmingham debate with Hawtrey in 1933 by the use of the Social Credit Analysis Diagrams.

The diagrams can usefully be compared with the conventional Circular Flow diagram. The key difference is that the Bank having been identified as the "money maker" is shown to have a crucial role to play in the whole scenario. Earners of wages, salaries and dividends get their money from a producer. Moreover, producers do not make money; banks make loans to productive organizations. Loan money flows from the bank to the producer, who passes on part of the total sum directly to the citizen as a wage or salary which can then be spent by the consumer in that productive period, Those "distributed costs" or "A" payments are available to be spent with the retailer so that in the course of time they return to the Bank. However, the producer must meet other "allocated costs" incurred from past stages of production, including costs of plant and raw materials. These "costs" or "B" payments are costs which each individual producer must meet over and above any payments distributed by that producer in the form of wages, salaries and dividends.

The producer cannot meet all costs until *after* all the goods are sold, i.e., the "A" payments distributed by that producer in the form of wages, salaries and dividends.… For the economy as a whole to function, new money has to be constantly produced by the Bank as debt, in respect of capital and intermediate goods which are not available for purchase in respect of capital and intermediate goods in the present period. As any child can tell, goods not available for purchase in the present period there is a very big difference between on the one hand and buying and selling for money on the other. One sweet can be bartered directly for one biscuit. However, where money is concerned, child A can sell child B the biscuit for £2, buy the sweet for £1 and end up £1 the richer than before. Far from being incidental, money plays a central role not only in the economy, but in society as a whole.

Incomes — "A" Payments

According to mainstream conventional theory, all payments to "households" are being paid in the form of wages, salaries and dividends as rewards for inputs to the productive process. This means that *money incomes* to individual consumers are primarily conceived of as deriving from work undertaken in the service of the *money* economy. The logic of the scenario is that working for money is pure "disutility," an onerous duty for which a reward is given. In the same way, a dividend is paid to the "owner" of saved up financial capital which, when it is invested, brings a reward for the disadvantage of abstaining from earlier spending on consumer goods.

Going to work to earn the money to spend on the necessities and luxuries of life had, by the twentieth century, become so ingrained in the cultural psyche that it was difficult for people of *all* political persuasions *who were doing well out of the system* to begin to think laterally. Douglas's analysis was clear and to the point. In days gone by it was necessary to labour for long hours with hand tools in order to produce the basic requirements of human existence. With the new technologies, made possible through the division of labour, the link between "work" put in and money reward

given became indistinct.…

As long ago as 1776, Adam Smith dramatically illustrated the principle of the "division of labour," whereby each worker specializes in one or a few functions of the production process within a particular trade or profession. Smith's example of the pin factory is often quoted but rarely studied for its far-reaching implications: a workman not educated to this business (which the division of labour has rendered a distinct trade), nor acquainted with the use of the machinery employed in it (to the invention of which the same division of labour has probably given occasion), could scarcely perhaps, with his utmost industry, make one pin a day, and certainly could not make twenty.

But in the way in which this business is now carried on, not only the whole work is a peculiar trade, but it is divided into a number of branches, of which the greater part are likewise peculiar trades. One man draws out the wire, another straightens it, a third cuts it, a fourth points it, a fifth grinds it at the top for receiving the head; to make the top requires two or three operations; to put it on is a peculiar business; to whiten the pins is another; it is even a trade in itself to put them into the paper; and the important business of making a pin, in this manner, is divided into about eighteen distinct operations which in some manufacturies are all performed by distinct hands, though in others the same man will sometimes perform two or three of them.… But though they were very poor, and therefore but indifferently accommodated with the necessary machinery, they could, when they exerted themselves, make among them about twelve pounds of pins a day. There are in a pound upwards of four thousand pins of middling size. Those ten persons could therefore make among them upward four thousand eight hundred pins in a day. But if they had all wrought separately and independently, and without any of them being educated to this particular business, they could not each of them have made twenty, perhaps not one pin a day.

The passage is revolutionary in its implications. If, by separating into different trades and professions, and specializing within each separate trade, pooling knowledge, expertise and invention, the total wealth of the entire economy is increased many thousand times over, calculation of money wages, the rewards rightly due to *one individual worker* in respect of his personal contribution to the total enterprise, must become a major issue for consideration.

The passage cited from Smith is followed by discussion of the degree of adaptability of different trades to the division of labour and hence to mechanical productive processes. Even at this early stage of the development of modern productive methods, Smith observed that agriculture was less suited to mechanization than other types of production, since the care of the lands, its plants and animals, necessitated a holistic approach which could not be quantified in the same way as the manufacture, e.g., of pins.

The men in the ten-men pin factory cited by Smith were "very poor," with little inclination to exert themselves. Smith was writing during the eighteenth century, during the early stages of industrialization, when landless labour was plentiful. Enclosures had continued to force people off the land, from which they had traditionally secured a living, so that men, women and children were employed for a pittance in mines and factories, working under appalling conditions. The *only* incentive to work was the reward, in money or in kind, which would supply the basic necessities of life. Under these circumstances, the demand for a fair day's wage for a fair day's work was logical and entirely reasonable.

National Dividend and the Common Cultural Inheritance

By the 1920s and 1930s, technological developments had reached the point where, in certain industries, machinery could perform most of the mechanical tasks previously undertaken by individual workers. The result was a plentiful flow of goods into existence, at prices covering the previous costs of production, but an inadequate flow of the finance to enable consumers to buy the newly available products. The option then was to jettison the labour-saving machinery and revert to manual labour and handicrafts to keep the labourers employed. In 1924, Douglas spelled out the necessity to re-think the relationship between finance and the social order.

The early Victorian political economists agreed in ascribing all "values" to three essentials: land, labour, and capital. But it is rapidly being recognized that, while there might have been a rough truth in this argument during the centuries prior to the industrial revolution after the inventive period of the Renaissance, and culminating in the steam engine, the spinning-jenny, and so forth, there is now a fourth factor in wealth production, by far exceeding that of the other three, and which may be expressed in the words of Mr. Thorstein Veblen as the "progress of the industrial arts." Quite clearly no one person can be said to have a monopoly share in this; it is the legacy of countless men and women, long since dead. And since it is a cultural legacy, it seems difficult to deny that the community, have rightful claim to participate in this inheritance. This could be recognizing by granting all citizens the inalienable right to a National Dividend.

A "dividend" in its accepted sense, is a payment of money; a "credit" which derives from the community but is paid through the banking system.… The institutions which mobilize the issue of "credit" are the banks and financial institutions. But what is "credit"?

Real and Financial Credit

From the outset of his writings on the subject, Douglas distinguished between *real* and *financial* credit. At a point in time a community may have to hand all the physical and practical resources necessary for production, including land, raw materials, factories, machinery, power, skill, organization and labour. With a continuous supply of the means necessary for production, a plant could turn out a stream of goods. However, a year or two later the same plant could be lying idle, while the "labour" was said to be "unemployed." What has happened to stop the wheels of industry turning? Clearly it is not a breakdown of the productive system, since tomorrow it could be set in motion again without the slightest difficulty. The plant lies idle because orders for the goods have ceased to come in.

Throughout the twentieth century individuals spent their lifetimes "earning" and spending "their" money. Yet most would find it very difficult to explain exactly what money is, how their employment generates an income, or what forces regulate the circulation and the amount of money in existence.

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said to be "unemployed." What has happened to stop the wheels of industry turning? Clearly it is not a breakdown of the productive system, since tomorrow it could be set in motion again without the slightest difficulty. The plant lies idle because orders for the goods have ceased to come in. The problem is that need is not backed by money; it cannot be translated into effective demand. The question then is – why is money at one time plentiful and at another time scarce? Productive capacity certainly does not vary upwards and downwards at regular intervals.

On the contrary, the world's productive capacity has steadily and rapidly increased over the decades. The productive capacity of the industrialized world is hundreds of times today what it was a century ago, and is constantly increasing with every new invention. Not only are variations in the availability of money and its circulation through the economy not due to variations in productive capacity, they scarcely relate to production at all. The production of finance, on the other hand depends on factors over which the productive processes have little or no control. This discrepancy between goods and finance, between productivity and currency, is the difference between real credit and financial credit. Real credit rests on real resources – materials, power, labour and technology. Financial credit rests, ultimately, upon belief – credo – it is an article of faith. If the ownership of the means of direct production is in the hands of capitalists, the real controls still lies with finance, whose ultimate ownership is vested in the financial, and not in the productive system.

Douglas' analysis of one actual role of finance within the real economy of every day practice was at sharp variance with mainstream neoclassical orthodoxy. Economic "science" is almost exclusively concerned with accounting the distribution and income within a business community centered on the market. Thus orthodoxy reduces motivation to the pure calculation of profit or loss; the actions of individuals are informed by a very simple rule of thumb, that of pain-cost and pleasure-gain of "Rational Economic Man." However, although mainstream theorizing purports to focus upon the physical processes of production and consumption, it does so in a very confused manner: the theories of supply, of demand and price are based upon financial calculations and considerations. Thus businesses do not acquire finance to consume, but in order to acquire more finance from further sales.

The question is, why has demand ceased if the products in question are needed? The problem is that need is not backed by money: it cannot be translated into effective demand. The question is, why has demand ceased if the products in question are needed? The question then is – why is money at one time plentiful and at another time scarce? Productive capacity certainly does not vary upwards and downwards at regular intervals. On the contrary, the world's productive capacity has steadily and rapidly increased over the decades. The productive capacity of the industrialized world is hundreds of times today what it was a century ago, and is constantly increasing with every new invention. It can be stated with all certainty, therefore, that the variations in the availability of money and its circulation through the economy are not due to variations in productive capacity, they scarcely relate to production at all.

The production of goods depends upon the availability of real resources; the production of finance, on the other hand, depends on factors over which the productive processes have little or no control. This discrepancy between goods and finance, between productivity and currency, is the difference between real credit and financial credit. Real credit rests on real resources – materials, power, labour and technology. Financial credit rests, ultimately, upon belief – credo – it is an article of faith. If the ownership of the means of direct production is in the hands of the capitalists, the real control still lies with finance…whose ultimate ownership is vested in the financial, and not the productive system.

Douglas's analysis of the actual role of finance within the real economy of everyday practice was at sharp variance with mainstream neoclassical orthodoxy. Economic science is almost exclusively concerned with accounting the distribution of ownership and income within a business community centered on the market. Thus orthodoxy reduces motivation to the pure calculation of profit or loss; the actions of individuals are informed by a very simple rule of thumb, that of pain-cost and pleasure-gain of "Rational Economic Man."

However, although mainstream theorizing purports to focus upon the physical processes of production and consumption of material goods it does so in a very confused manner: the theories of supply and demand and price are based upon financial calculations and considerations. Thus businesses do not acquire finance in order to consume, but to acquire more finance from further sales, which is a very different matter.…

The passage is revolutionary in its implications. If, by separating into different trades and professions, and specializing within each separate trade, pooling knowledge, expertise and invention, the total wealth of the economy is increased many thousand, the rewards rightly due to times over, calculation of money wages due to *one individual worker* in respect of his personal contribution to the total enterprise, must become a major issue for consideration.

Free Social Credit

A credit is "free" in form when a Credit Authority transfers it to some recipient without requiring the recipient to pay interest on it. Is such a gift of credit essentially a loan in perpetuity to the recipient?… If no interest is charged, and if no moral obligation on the part of the recipient to pay interest is recognized, there would seem no difference in form, either…. However, there remains a big distinction between such a and a gift. That lies in the attitude of mind involved.

That depends on whether the recipient is supposed to be under a moral obligation to return it, or has the moral right not to do so…. Fundamentally, interest is exactly like the seal on a legal document. It is a recognition in law of the acceptance of the borrower of the moral right of the lender to redeem the pledge.…

Douglas, the practical engineer, surveyed the workings of the financial system of the industrial world before, during, and after the First World War. He concluded that the indirect financing of distribution (incomes) through the debt-financing of employing institutions was an unnecessarily cumbersome and outmoded methodology. This chapter has provided a brief overview of the subject. There can be no substitute, however, for the critical study of Douglas' original works.

In post-industrial societies money forms the "life-blood" of the social order. It therefore follows that an understanding and finance within the institutional framework of society as a whole becomes an essential prerequisite for progress towards a sane, just and sustainable social order.

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In his earliest discussion with trade unionists and the Labour Party throughout

the UK, Douglas constantly stressed the need to distinguish between money values and the practical realities of everyday economics.

Without the Douglas analysis, mainstream economic thought in the academy remains little more than an incoherent collection of non-sequiturs.

What has been attempted here is the briefest of summaries of Douglas' detailed analysis. Douglas' original work is essential reading if a full understanding of the technical details of the relationship between the financial and the real economies in the post-industrial era is to be achieved.

For Douglas and also for Veblen, the economy functions through a series of man-made institutions, the evolution of which can be studied for the introduction of sane, sensible adaptations which take account of all the factors concerned. Douglas provided clear and concise answers to the frequently asked questions about the working of the economy in the twentieth century. He was, however, persistently misinterpreted by career politicians, bankers and academics.

This was particularly true of socialists who assumed that Douglas might perhaps be advocating a version of state control of industry in general, and banking in particular. Hence Douglas found it necessary to clarify his stance.

William Krehm

We have been Diddled Out of All We Learned in Countless Depressions and Two World Wars

The Toronto Star (07/19, "Global fears cloud Canada's outlook" by Josh Rubin touches upon the debt of the problem: "As chaos continues to engulf stock markets around the world and fears of a recession grow, federal Finance Minister Jim Flaherty and Bank of Canada governor Mark Carney will do their best on Friday to calm investors' frazzled nerves.

"Their appearance before a rare summer sitting of the Commons finance committee has already sparked debate over whether the federal government should turn the stimulus taps back on, or if that fiscal cure would be worse than the potential economic disease. And some doubt whether Flaherty and Carney's words will have any effect on jittery stock markets any way.

"'Unless they've got an announcement about some sort of secret deal that the Americans and Europeans have to solve everything, there's almost nothing they can say that will have any effect,' said Fred Lazar, a professor at York University's Schulich School of Business.

"Stock markets plunged Thursday amid growing fears the US is slipping into a double-dip recession, likely dragging Canada down with it. Toronto's S&P/TSX composite index fell 392.9 to close at 12,186.71. In New York, the Dow Jones Industrial average plummeted 419.53 points to close at 10,080.58.

"Economists and experts from across the political spectrum differ sharply on what Flaherty and Carney should say and do about the growing economic concerns. Some are calling for Flaherty to renew stimulus spending immediately, while other say spending billions of dollars would be premature at best and dangerous at worst.

"Spending now would make Canada's relatively small deficit of $40.5 billion mushroom when it's not clear that the economy really needs the extra boost, Lazar added.

"'I think they should make a plan now, and then wait three or four months and see how things are. If they wait four months and then say "Gee, it's bad." Now let's come up with a plan, that would be a mistake,' Lazar said. He suggested Flaherty's contingency plans should include renewed infrastructure spending or dropping the harmonized sales by 1 percentage point.

"The federal government says it's on track to eliminate the deficit by the 2014 fiscal year.

"But Canadian Auto Workers economist Jim Stanford argues the greatest threat of a recession comes from paring government spending too aggressively to cut the deficit.

"'We are not in a double dip recession yet, but we could get there quickly if governments slash aid and burn spending, and/or if business doesn't finally step up its investment spending,' Stanford said.

"All the focus on government debt in recent weeks has been obsessing on the symptom, not the disease. The disease is near-zero growth, lousy job creation and very weak investment. Until we get the underlying in gear, we will never be able to reduce the debt.

"Federal NDP finance critic Peggy Nash called on Flaherty to boost spending and in the process took a shot at Treasury Board President Tony Clement and his heavily criticized spending on last year's G8 Summit.

"'We're not talking about a stimulus plan where you bring gazebos to Tony Clement's riding. We need strategic infrastructure investment, whether it's transit in Toronto or building bridges in Montreal,' said Nash."

That is fine, and should be greeted encouragingly, but it only scratches the surface of the real problem. The greatest lesson learned from world War II was a surprising, unforeseen by-product of an initiative of the US government.

That, however, is what financial speculative capital determined to avoid. Consider public spending on human welfare – education, health, security in retirement as a prepaid investment, and government accounts are readily balanced, will be in surplus. Reduce such investments to mere expenditure and extravagance and you have delivered a kick in the very crotch of meaningful history.

For human capital properly handled is a multigenerational and multidirectional asset. Treat it as a debt as we have been doing, and you will deprive society of any accountancy worthy of the name. There are international corporations that specialize in leasing such structures, bridges, highways railways. The logical and socially sensible way to handle such public infrastructure – it would be: on deciding to build, say, a municipal subway, for the public sector to purchase strategic land and buildings in the vicinity of the future subway stations, and as the decision becomes more publicly known, lease out the site long-term to private developers. That was the pattern of conduct that kept strategic land owners in Britain prosperous and mighty. That we have accepted the imposition of exactly the opposite course, and borrowed the funds by selling property that the state may own along the run of the new strategic infrastructure. It is part of the financial burden that our Western society bears for having reduced the economics courses in almost all the greatest world universities to alleged "free market theory." That is tantamount to kicking in the crotch the most important lessons of our history.

William Krehm

Flying Blind with a Broken Cane for a Rudder

The New York Times (20/07, "US to Close 800 Computer Centers" by Steve Lohr) informs us: "The federal government plans to shut 40 percent of its computer centers over the next four years to reduce the hefty technology budget and modernize the way it uses computers to manage data and provide services to citizens.

"Computer centers typically do not employ many people to tend the machines, but analysts estimate that tens of thousands of jobs will most likely be eliminated.

"The federal government is the largest buyer of information technology in the world, spending about $80 billion a year. The Obama administration, in plans detailed Wednesday, is taking aim at some of that by closing 800 of its sprawling collection of 2,000 data centers. The centers, analysts say, will translate into billions of dollars a year and acres of freed-up real estate.

"The government is following the lead of private business. For years, companies have been using software that shares computing tasks across several machines in a data center. The task-juggling technology enables computers to run at far higher levels than in the past, doing more computing chores with fewer computers and fewer data centers.

"In an interview, Vivek Kundra, chief information officer for the federal government, explained that the data center consolidation was part of a broader strategy to embrace more efficient internet-era computing. In particular, the government is shifting to cloud computing, in which users use online applications fished up over the internet. Cloud services can be provided by the government to many agencies or by outside technology companies pursuing their own entrepreneurial interests.

"It not only promotes the cloud computing services with the authority of the government but enhances the prestige of the private technologies being peddled with the grandeur of the state."

This opens up the whole vast empire of mathematical judgment that comes down to us from ancient Greece. and even beyond. I would strongly urge concerned readers consult on the matter *A Survey of Modern Algebra*, Birkhoff and MacLane, Third Edition, The Macmillan Company, 1965 – particularly Chapter II, Rational Numbers and Fields. That will tap essential mathematical logic that should be convincing the Canadian government to place up front for its oil development its Northern regions, rather then down south. Up north you can get around the globe with a tiny portion of the mileage it takes further south. At present we are leaving that basic mathematical wisdom to the Russians and the Chinese, they seem to have become aware of that a long time ago.

It will also explain why so many different civilizations, quite independently, chose the seven-day week as their smallest time unit. "From early antiquity, man has distinguished between the 'odd' integers 1, 2, 3…, and the 'even' 2, 3, 4, etc.… Basic laws of mathematical analysis, Fermat's Law and many others depend on that distinction. Mathematicians in many different cultures have explored and incorporated the structural advantages in that analysis that our governments should start learning.

The same issue of the *Times* ("The Banking Miracle" by Joe Nocera) pursues the matter: "The president of the American Bankers Association was railing against excessive regulation in a speech at the Waldorf Astoria. 'The banking reform bill,' he complained, would 'destroy a substantial part of our bond-distributing machinery.…' Can anyone expect that a step of this kind will improve the quality of our long-term investments?

"Modern echoes, for sure. But I read about the speech in a January 27, 1933, article culled from the wonderful archives of *The American Banker*, the bankers' bible now celebrating its 175th birthday. The speaker, one Francis H. Sisson, was complaining about an early version of the *Glass-Steagall Act*, the most famous of all Depression-era bank laws, and the one that, in retrospect, did the most good. Less than six months later, President Franklin Delano Roosevelt signed it into law.

"From my vantage point here, in 2011, *Glass-Steagall* seems miraculous. It was amazingly radical not only for its time, but for any time; it didn't so much reform banking as upend it. Most notably, it ordered banks to get out of the securities business. As Sisson complained, 'The effect of the proposed banking reform is to renounce investment banking rather than regulate it.' Because investment banking was then the chief activity of the big banks, this was a very big deal.

"*Glass-Steagall* also created the Federal Deposit Insurance Corporation, which insured deposits for the first time, and outlawed branch banking by national banks, among other things. It is impossible to imagine anything like it today, although the modern reform bill, Dodd-Frank, surely does some good, it's not even comparable.

'I'd long wondered how Senator Carter Glass, the powerful Virginia Democrat, and his House counterpart, the Alabama congressman Henry Steagall, managed to get it passed. What were the politics like? What did they fight over? Why didn't people like Sisson have better luck pushing back against it, the way bank lobbyists do today? So I asked the editors at *American Banker* if they would send me some articles from the era that would shed some light on the question. Happily, they obliged.

"The first thing I realized is that all the horse-trading over the bill's provision was done by Democrats. The Republicans, having been badly defeated in the 1932 election, had no ability to block it, or even to amend it. For instance, Republicans tended to view the creation of deposit insurance as 'socialism.' (Sound familiar?) But it didn't matter: Steagall cared deeply about deposit insurance. Many community bankers – as strong a force back then as today – also supported the idea because they thought it would renew customers' faith in the banks, and bring back deposits. (This turned out to be true.) Glass, though skeptical, went along so that he could get things he cared about, mainly a stronger Federal Reserve with more power over the banks.

"The second thing I realized was that, the Sisson speech notwithstanding, there was surprisingly little controversy over what we now think of as the law's primary achievement – splitting commercial and investment banking. The fights were all over issues that seem inconsequential by today's lights, It's as if the notion of breaking the banking business into two was always a forgone conclusion."

Today the veneration is concentrated on the number one, that deprives us of history, and a rarity of other key resources.

It brings the ancestral flair for the magic of numerology into play. It sheds a more basic light on why central banks should not be in absolute control of private banks or vice versa and why President Obama should not have adjusted what was intended to be basically a reform regimes to the old power clans.

William Krehm

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Our Mail Box

Mr. Krehm,

Here is the introduction to my model of a debt created money supply with several computer simulations in the full ms. The simple model demonstrates a money supply created by debt whose interest is paid by creating more debt is unsustainable. History documents that a debt money supply collapses every few years from defaults and bankruptcies as ever increasing debts can no longer pay interest nor be repaid.

The proper answer is to spend money into an economy, free of debt, by the only legal creator of such money, the nation state. As you write, the most valuable investment a nation can make is in its infrastructure – the most important part of which is its people, their education and health. Is this not the answer Hitler found to the Great Depression? This spending is not an expense to be minimized but a national investment in its future. Put into balance sheet format, the money a nation creates and spends on its human and physical infrastructure is fully balanced by the future wealth it brings. The money thus entering circulation is free of debt, increases with the nation, and supports sustainable expansion.

Regards, Robert Z.

Dear Robert Zimmerer:

I have read and carefully considered what we do agree about "the most valuable the most valuable investment a nation can make is in its infrastructure – the most important part of which is its people, their education and health." But then you go on to discuss the spending of money. "The money thus entering circulation is free of debt, increases with the nation, and supports sustainable expansion."

That however, deals only with the money supply, and leaves untouched the rest – and significantly the most deeply suppressed part of our history. Examining the "money supply" in isolation, rather than the whole span of our economic history – particularly what has been suppressed – notably the none and even anti-accountancy, that results from considering spending on human capital as an expenditure rather than as an investment.

That takes us back to Ancient Greece where Socrates – who made a point of publishing nothing – emphasized that analysis is not a two-way reversible affair. Astronomers early learned about many other astral influences. You adjust your reflections. That is why we have need of our entire history not just what would be very incomplete and misleading what governments and banks and severely controlled history courses permit us to recognize. What is being suppressed by hook and claw because it would threaten the privileged position that is in the interest of their dominant position.

Let me track down the deadly complexity of this strategy. Concentrate on what the government expends in money and what it takes in, as is currently done but ignore investment in human capital already completely paid for and hence something that should be recognized in determining what governments can or cannot afford.

There was very good reason for those in control of the state to have overlooked that detail, though the great historic conclusion was the unexpected outcome of investigation that the Washington government had initiated. After the end of World War II it had sent many hundreds of economists to Japan and Germany to study the war damage and decide how long it would take for those leading Axis powers to become formidable trade competitors once more. Some sixteen years later, one of these. Theodore Schultz of the University of Chicago, published his conclusion that he and his colleagues had been so wrong in their forecasts because they had concentrated on the physical destruction of the war, and assigned little importance to the highly trained, gifted and motivated human capital had come through the struggle, almost intact. From this he concluded that human capital, is the most productive investment a government can make. Moreover, it comes prepaid. For a few years Schultz was celebrated and decorated, and then completely forgotten. Not only does that investment come prepaid, but multiplies at a rapidly compounded rate – the children of educated parents are more readily educated, those of healthy parents tend to be healthier. From the standpoint of the speculative finance that had taken over, suppressing the unusual growth power of human capital was of key strategic important that had to be suppressed. And suppressed it was. That is of practically unbounded strategic important. If you treat it as just more government debt or even investment you surrender the control of the

world economy. There is no way of balancing government budgets if that is tolerated. Moreover, a misleading indebted government will be constrained to put up for sale priceless urban real estate "to balance" a fictitious budget. When, for example, the government finances a subway, it should have bought up strategic sites near stations. Instead they are sold off at favoured rates supposedly because the government cannot afford to hold them.

The problem, then, is far. far greater than balancing the budget – for that to have real significance, you would have to evaluate the government investment in human capital as an asset might be. The problem there is the utter lack of serious accountancy. Rather than a matter of how much the government may be out of pocket in contributing to the nations human capital, while treating "the most productive investment that a government can make." Let our government try using serious accountancy.

William Krehm

Cheer Up! Washington will Go Right on Bailing Out Its Super-Banks — Even If It Has to Invent a New Sort of Matter to Turn the Trick

The New York Times (28/07, "Seeing Threat, Boehner Tries Tougher Tack" by Carl Hulse) reports: "Washington – Speaker A. Boehner is a laid-back leader who likes to say that his rule is to let the House work its will. But with the nation's standing and his own political future at risk, Mr. Boehner jettisoned his usual laissez-faire approach on Wednesday.

"'I didn't put my neck on the line and go toe to toe with Obama to not have an army behind me,' Mr. Boehner declared at a private party meeting, according to some House members. He demanded the fealty of Conservatives who were threatening to sink the budget proposal and deny him the chance to confront the Senate with a take-it or leave-it offer on a debt ceiling increase.

"Mr. Boehner really had no choice but to go all out. A defeat of that plan – which seemed likely Tuesday night before his prospects improved Wednesday – would have been a disastrous repudiation which seemed likely before its prospects improved Wednesday – would have been a disastrous repudiation, in effect a stinging vote of no confidence in him.

"Since taking over what some people now describe as the worst job in Washington, Mr. Boehner has found himself caught between two imperatives: to lead the majority of Tea Party newcomers in its crusade to cut spending and the size of government, while serving as responsible in governing with a Democratic Party White House and Senate.

"The present impasse is the starkest illustration yet of that tension as the speaker labors to persuade House Republicans who find the notion of increasing the debt limit repugnant…to prevent what Mr. Boehner, a former businessman himself, knows could be a disastrous default.

"In a conference call to his membership on Sunday, Mr. Boehner reminded his caucus members that they had a duty to the nation, even if they did not like what he was asking them to do.

"'Let me thank all of you for your confidence, and for your commitment to our country,' Mr. Boehner said, according to participants on the call. 'We're doing the right thing, and you all know that isn't always the easiest thing to do.'

"The speaker had used the many resources at his disposal to coax along his fellow Republicans – from listening sessions in which House leaders sought to educate Republican newcomers on the issue, to an informal party last week. It was the first held in a storied room on the first floor of the Capitol known as the Board of Education where another speaker from Ohio, Nicholas Longworth IV, used to gather with colleagues during Prohibition to unwind. Mr. Boehner fed the freshmen debt limit talk along with pizza, sliders and chicken wings.

"But it remained a tough sell, with Mr. Boehner in danger of losing the vote, particularly after a Congressional Budget Office report showed that the House plan fell short of the savings estimated by the speaker. The leadership regrouped, beefed up the savings in the measure, used the party meeting to make its case and appeared to gain ground. headed into Thursday's floor fight.…

"While it seems unlikely now, getting the Senate to swallow the House proposal would be a major victory for the speaker, who will have delivered the solution to the debt impasse over the objections of Democrats and President Obama. But if Republican intransigence is blamed for a default or his caucus is forced to accept some version of the Senate Democratic plan – an outcome that some House members would consider far worse than not allowing the nation not to pay its bills – Mr. Boehner would be weakened.

"Still, many Republicans consider him safe because of the general good will he has built with many members despite their differences. And there are now few signals from other Republican leaders that they are ready, or even want, to take him on.…

"In interviews in recent weeks, roughly two dozen members, even some who had vehemently opposed Mr. Boehner's plan, said they respected how he conducted his negotiations with the White House. And they said they appreciated his inclusiveness, especially freshmen who expected otherwise as they pushed early on for more aggressive cuts.…

"Despite all the vitriol in the debt limit fight, Democrats have been careful to not go too far in impugning Mr. Boehner – Senator Charles of New York, the No. 3 Democrat called him a 'good and reasonable man' – [in case] they have to work with him. But they have also sought to portray him as a captive of the right wing of the caucus.

"Still, Democrats are keeping the door open for Mr. Boehner, hoping that in the final resolution of the impasse he will have to join with them in enacting a debt limit increase that extends through 2012. At the moment, though Mr. Boehner is not ready to walk through the opening.

The Search for Much-needed Political Allies Extends into a Search for New Life Forms Leading Eventually Humans on Earth

In the same issue of *The New York Times* (25/07, "Seeking Alien Life Forms, Right Here on Earth" by Dennis Overbye), we read and rub our eyes with incredulity: "Life Out There: From Inanimate to Animate."

We quote: "San Diego – Here in a laboratory perched on the edge of the continent, researchers are trying to construct Life as We

Don't Know it in a thimbleful of liquid.

"Generations of scientists, children and science fiction fans have grown up presuming that humanity's first encounter with alien life will happen in a red sand dune on Mars, or in an enigmatic radio signal from some obscure star.

"But it could also happen here on Earth, according to a handful of chemists and biologists who are using the tools of modern genetics to try to generate the Frankensteinian spark that will jump the gap separating the inanimate from the animate. The day is coming, they say, when chemicals in a test-tube will come to life.

"By some measures, Gerald E. Joyce, a professor at the Scripps Research here, has already crossed that line, although he would be the first to say that he has not – yet.

"Biologists do not agree on what the definition of life should be, or whether it is even useful to have one. But most do agree that the ability to evolve and adapt is fundamental to life. And they also agree that having a second sample of life could provide insight to how it began and how special life is or is not in the universe, as well as a clue for how to recognize life if and when we do stumble upon it out there among the stars.

"'Everything we know about life is based on studies of life on Earth,' said Chris Mckay, a researcher at NASA's Ames Research Laboratory in Mountain View, Calif.

"Dr. Joyce said recently, 'It drives me crazy when astronomers say, "Surely the universe is pregnant with life." If we have an Earthlike planet, what are the chances of life arising? Is it one in a million? Is it one in two?'

"He continued, 'If you had a second example of life, even if it were synthetic, you might know better. I'm betting we're just going to make it.'

"Four years ago, Dr. Joyce and a graduate student, Tracey A. Lincoln, now researcher at the University of Massachusetts Medical School, evolved a molecule in a test-tube that could replicate and evolve all by itself, swapping little gerry-built genes in a test tube forever, as long as it was supplied with the right carefully engineered ingredients.

"An article in the Joyce Laboratory newsletter called it 'The Immortal Molecule.' Dr. Joyce's molecule is a form of RNA, or ribonucleic acid, which plays Robin to DNA's Barman in Life As We Know It, assembling proteins in accordance with the blueprint encoded in DNA. Neither RNA nor DNA is alive by itself any more than any other chemical, like bleach, or a protein. But in Dr. Joyce's test-tube, his specially engineered RNA comes close, copying itself over, and over again, and evolving.

"'But, Dr. Joyce says, 'We really would hope for more from our molecules than just replicating.'

"Reproduction is the job of any life, he explained, but Earthly organisms have evolved a spectacular set of tricks to improve the odds of success – everything from peacock feathers to whale songs. Dr. Joyce's molecules have not yet surprised him by striking out on their own to invent the molecular equivalent of writing a hit pop song.

"It is only a matter of time, he said, before they do.

"'Our job is to give them the running room to do that,' Dr. Joyce said.

"The deeper philosophical and intellectual ramifications of test tube life are as enormous as they are unknown. The achievement would probably not become sci-fi drama, say scientists who are squeamish about such matters anyway, saying such speculation is beyond their pay grade.

"No microbe is going to leap out of the Petri dish and call home, or turn the graduate student into zombies. Indeed, given the human penchant for argument and scientists' habit of understatement, it could be years before everybody agrees that it has been done.

"'The ability to synthesize life will be an event of profound importance, like the invention of agriculture or the invention of metallurgy,' Freeman Dyson, a mathematician and physicist at the Institute of Advanced Study in Princeton, wrote in an e-mail. 'Nobody can tell in advance what will come of it.'

"On Earth, all life as we know it is based on DNA, the carbon-based molecule that contains the instructions for making and operating living cells in a four-letter alphabet along its double-helix spine.

"The possibilities of a second example of life are as deep as the imagination. It could be based on DNA that uses a different genetic code, with perhaps more or fewer than four letters; it could be based on some complex molecule other than DNA, or more than the 20 amino acids from which our own proteins are made, or on some kind of chemistry based on something other than carbon and the other elements that we take for granted, like phosphorus or iron. Others wonder whether chemistry is necessary at all. Could life manifest itself, for example, in the pattern of electrically charged dust grains in a giant interstellar cloud, as the British astronomer and author Fred Hoyle imagined in his novel *The Black Cloud*.

"Dr. Joyce said that his RNA replications would count as such a 'second example, albeit one constructed as a homage to our ancient ancestors.'

"So far, he said, his work with Dr. Lincoln has shown that man-made molecules can evolve over successive generations. 'They can pass information from parent to progeny, they can mutate,' Dr. Joyce said. 'They can win or die. The molecules are doing it all. We're just keeping the lights on.'

"Dr. Joyce's molecules may not be clever enough yet to qualify as life in his view, but all sorts of alternatives are being explored in other labs.

"Some researchers, like Steven Benner of the Foundation for Applied Molecular Evolution in Florida are constructing and experimenting with forms of DNA that use coding alphabets of more than four letters. J. Craig Venter, who helped spearhead the decoding of the human genome and now works as president of the J. Craig Venter Institute, recently used store-bought chemicals to reconstruct the genome of a bacterial goat parasite and put it in another bacterium, where it took over, churning out copies of itself with Dr. Venter's watermark inscribed its gene code. In a related vein, George Church and Farren Isaacs of the Harvard Medical School recently reported that they had reprogrammed the genome of an E. Coli bacterium, opening up the possibility of incorporating new features into the ubiquitous little bug. Dr. Joyce called the work 'really macho molecular biotechnology.'

"Jack Szostak of Harvard Medical School and his collaborators have embarked on an ambitious project to build an artificial cell that can replicate and presumably evolve. Dr. Benner wrote in an e-mail, 'In my view, a terran laboratory will make synthetic life before NASA or the ESA finds it elsewhere,' referring to the European Space Agency. He added, 'And a lot before, given the disassembling.'"

Let our readers note well that our earthly statesmen who find themselves unable to apply first year high-school mathematics to their and our world's problems in understanding the origins of life, are threatening the preservation of life as humanity as known on this planet. That seriously prejudices their helping to open its secrets and actual creation in new forms.

"According to modern science, life on

Earth originated about 3.8 billion years ago, perhaps in a warm pond as Darwin speculated, or perhaps in a boiling, bubbling mud bath or a scorching volcanic vent way under the sea. The first inhabitant of t his Eden, chemists suspect, was RNA.

"In today's world RNA runs errands for DNA. Like DNA. RNA encodes genetic information."

All this puts the pseudo-statesmanship of Mr. Boehner in a new, troubling light. Being ready to gamble that our governments can risk dragging the planet into atomic war by leaving the fatal decisions in the hands of governments who are ready to gamble with the survival of humanity by surrendering anything remotely resembling accountancy, risks humanity gambling away its existence by entrusting all that to the stock markets of the world.

The abandonment of anything that could pass for serious accountancy in order that the stock markets can take over and prevail, leaves us exposed to the next atomic war – for which, thank you, the preparations are not languishing. Meanwhile the explorations in outer space for traces of other living species – should they only consist of a few cells has yielded nothing that could yet come to resemble a fully developed life form.

Would it be asking too much of Mr. Boehner to remind him that he is gambling with the survival of the sole life form not only on our planet or known to us in the entire universe. Surely that should restrain the scope of his gambling with the survival life on our planet.

W.K.

What Happened to Obama?

Exactly what could be and in fact we predicted.

However, let us listen to the answer of the Sunday Review of *The New York Times* (08/07, "Opinion" by Drew Westen – a professor of psychology at Emory University and the author of the author of *The political Brain. The Role of Emotion in Deciding the Fate of the Nation)*: "Atlanta – It was a blustery day in Washington on January 20, 2009, as it often seems to be on the day of a presidential inauguration. As I stood with my 8-year-old daughter watching the president deliver his inaugural address, I had a feeling of unease. It wasn't just that the man who could be so eloquent had seemingly chosen not to be on this auspicious occasion, although that turned out to be a troubling harbinger of things to come. It was that there was a story the American people were waiting to hear – and needed to hear – but that he didn't tell. And in the ensuing months he continued not to tell, no matter how outrageous the slings and arrows his opponents threw at him.

"The stories our leaders tell us matter, probably almost as much as the stories our parents tell us as children, because they orient us to what could be, and what should be, to the world views they hold and to the values they hold sacred. Our brains evolved to 'expect' stories with a particular structure, with protagonists and villains, a hill to be climbed or a battle to be fought. Our species existed for more than 100,000 years before the earliest signs of literacy, and another 5,000 years would pass before the majority of humans would know how to read and write.

"Stories were the primary way our ancestors transmitted knowledge and values. Today we seek movies, novels and 'news stories' that put the events of the day in a form that our brains evolved to find compelling and memorable. Children crave bed-time stories; the holy books of the three great monotheistic religions are written in parables; and as research in cognitive science has shown, lawyers whose closing arguments tell a story win jury trials against their legal adversaries who just lay out 'the facts of the case.'

"When Barack Obama rose to the lectern on Inauguration Day, the nation was in tatters. Americans were scared and angry. Three quarters of a million people had just lost their jobs that month. Many had lost their homes, and with them the only nest-eggs they had. Even the usually impervious upper middle class had seen a decade of stagnant or declining investment, with the stock market dropping in value with no end in sight. Hope was as scarce as credit.

"In that context, Americans needed their president to tell them a story that made sense of what they had just been through, what caused it, and how it was going to end. They needed to hear that he understood what they were feeling, that he would track down those responsible for their pain and suffering, and that he would restore order and safety. What they were waiting for, in broad strokes, was something like this:

"I know you're scared and angry. Many of you have lost your jobs, your homes, your hope. This was a disaster, but it was not a natural disaster. It was made by Wall Street gamblers who speculated with your lives and futures. It was made by conservative extremists who told us that if we just eliminated regulations and rewarded greed and recklessness, it would all work out. But it didn't work out. And it didn't work out 80 years ago, when the same people sold our grandparents the same bill of goods, with the same results. But we learned something from our grandparents about how to fix it, and we will draw on their wisdom. We will restore business confidence the old-fashioned way: by putting money back in the pockets of working Americans by putting them back to work, and by restoring integrity to our financial markets and demanding it of those who want to run them, I can't promise that we won't make mistakes along the way. But I can promise that they will be honest, and that your government has you back again. A story isn't a policy. But that simple narrative – and the politics that would naturally have flowed from it – would have inoculated against much of what had happened in the intervening two and a half years of failed government, idled factories and idled hands. That story would have made clear that the president understood that the American people had given Democrats the presidency and the majorities in both houses of Congress to fix the mess the Republicans and Wall Street had made of the country, and that this would not be a power-sharing arrangement. It would have made clear that the problem wasn't tax-and-spend liberalism – a deficit that didn't exist until George W. Bush gave nearly $2 trillion in tax breaks largely to the wealthiest Americans and squandered $1 trillion in two wars.

"He failed to grab the narrative, to take his place at an important historic moment.

"And perhaps most important point. It would have offered a clear, compelling alternative to the dominant narrative of the right, that our problem is not spending like the pensions of firefighters, but to the fact that those who can afford to buy influence are rewriting the rules so that so they can cut themselves progressively larger slices of

the American pie while paying less of their fair share for it."

But there was no story – and there has been none since.

In similar circumstances, Franklin D. Roosevelt offered Americans a promise to use the power of his office to make their lives become better and to keep trying until he got it right. Beginning in his first inaugural address and in the fireside chats that followed, he explained how the crash had happened, and he minced no words about those who had caused it. He promised to do something no president had done before: to use the resources of the United States to put Americans directly to work, building the infrastructure we still rely on today. He swore to keep the people who had caused the crisis out of the halls of power, and he made good on that promise. In a 1936 speech at Madison Square Garden, he thundered, "Never before in all our history have these forces been so united against one candidate as they stand today. They are unanimous in their hate for me – and I welcome their hatred."

When Barack Obama stepped into the Oval Office, he stepped into a cycle of American history, best exemplified by FDR and his distant cousin, Teddy. After a great technological revolution or a major economic transition, as when America changed from a nation of farmers to an urban industrial one, there is often a period of great concentration of wealth, and with it a concentration of power in the wealthy. That's what we saw in 1928, and that's what we see today. At some point that power is exercised so injudiciously, and the lives of so many become so unbearable, that a period of reform ensues and a charismatic reformer emerges to lead that renewal. In that sense, Teddy Roosevelt started the cycle of reform his cousin picked up 30 years later, as he began efforts to bust the trusts and regulate the railroads, exercise federal power over the banks and the nation's food supply, and protect America's land and wildlife, creating the modern environmental movement.

Those were the shoes – that Americans elected Barack Obama to fill.

The president is fond of referring to "the arc of history," paraphrasing the Rev. Dr. Martin Luther King's famous statement that the "arc of the moral universe is long, but it bends towards justice." But with his deep-seated aversion to conflict and his profound failure to understand bully dynamics – in which conciliation is always the wrong course of action, because bullies perceive it as weakness and just punch harder next time – he has broken that arc and has likely bent it backward for at least a generation.

When Dr. King spoke of the great arc bending towards justice, he did not mean that we should wait for it to bend. He exhorted others to put their full weight behind it, and he gave his life speaking with a voice that cut through the blistering force of water cannon and the gnashing teeth of police dogs. He preached the gospel of nonviolence, but he knew that when a bully hid behind a club or a poll tax, the only response was to face the bully down, and to make the bully show his true and repugnant face in public.

In contrast, when confronted with the greatest economic crisis, the greatest levels of economic inequality, and the greatest levels of economic inequality, and the greatest levels of corporate influence on politics since the Depression, Barack Obama stared into the eyes of history and chose to avert his gaze. Instead of indicting people whose recklessness wrecked the economy, he put them in charge of it. He never explained that decision to the public – a failure in story telling as extraordinary as the failure in judgment behind it. Had the President chosen to bend the arc of history, he would have told the public the story of the destruction wrought by the dismantling of the New Deal regulations that had protected them for more than a half century.

He would have offered them a counter narrative of how to fix the politics one that emphasized creating economic demand and consumer confidence by putting consumers back to work.

William Krehm

A Union Leader Who Talks High Social Sense

The Toronto Star (8/17, "Unlocking the wealth in the public sector" by Nick Thomas) quotes "outspoken union advocate Elaine Bernard addressing the delegates at the annual meeting of the Elementary Teachers Federation of Ontario." *The Star* spoke with Bernard, executive director of Harvard Law School's Labor and Worklife Program, about unions, city workers and why the public sector 'doesn't have a lock on wealth creation.'

"Toronto is grappling with how to deal with a deficit program. What do you make of buyouts and layouts of city workers as a strategy for saving money?

"It's short-sighted and ill planned, Bernard said. 'First, it often doesn't save money, if you look at buyouts…. And exactly why would you undermine the infrastructure, the quality of life and the type of services that make Toronto or Ontario successful and a wonderful place to live?'

"Bernard said the approach stems from a misconception that the public sector is an expense and only the private sector can produce wealth.

"How does the public sector produce wealth?

"'Clean potable water is a form of wealth…. Quality public schools are a form of wealth. It doesn't become wealth creating only when you privatize it,' she said. Moving wealth from the public to the private 'isn't wealth-creating, it's wealth-shifting.' The public sector is creating public value and I think we've got back to that sort of language, not just that it is a sort of expense. They're not looking at the other side of the ledger.'"

In fact there is no ledger. It is a one-sided scam of financial speculative capital that has taken over.

"Some might say that the things you're talking about are intangible. You can't balance the books with value or quality of life. How do you respond to that argument?

"When it comes to balancing the books, you've got to look at revenues as well as expenditures, Bernard said. Right now, governments are focusing on cuts instead of how to increase revenue through bringing 'fairness into the tax code,' for instance. Plus public employees help anchor a middle-class lifestyle simply by having jobs, she said.

"What roles do unions have in this climate of belt-tightening by any means necessary?

"Think of unions beyond wages and benefits. Labour rights are human rights, Bernard said, and have been upheld as such by the Supreme Court of Canada. 'Collective bargaining is not a luxury. It's a very important foundation of a democratic society,' she said. 'You can't say, well, we're facing a tough budget, so in the interim, let's abolish democracy for a while.'"■

Are Our Governments Suffering from Decision Fatigue?

By John Tierney. Published August 17, 2011, in The New York Times Magazine

Three men doing time in Israeli prisons recently appeared before a parole board consisting of a judge, a criminologist and a social worker. The three prisoners had completed at least two-thirds of their sentences, but the parole board granted freedom to only one of them. Guess which one:

Case 1 (heard at 8:50 am): An Arab Israeli serving a 30-month sentence for fraud.

Case 2 (heard at 3:10 pm): A Jewish Israeli serving a 16-month sentence for assault.

Case 3 (heard at 4:25 pm): An Arab Israeli serving a 30-month sentence for fraud.

There was a pattern to the parole board's decisions, but it wasn't related to the men's ethnic backgrounds, crimes or sentences. It was all about timing, as researchers discovered by analyzing more than 1,100 decisions over the course of a year. Judges, who would hear the prisoners' appeals and then get advice from the other members of the board, approved parole in about a third of the cases, but the probability of being paroled fluctuated wildly throughout the day. Prisoners who appeared early in the morning received parole about 70 percent of the time, while those who appeared late in the day were paroled less than 10 percent of the time.

The odds favored the prisoner who appeared at 8:50 am – and he did in fact receive parole. But even though the other Arab Israeli prisoner was serving the same sentence for the same crime – fraud – the odds were against him when he appeared (on a different day) at 4:25 in the afternoon. He was denied parole, as was the Jewish Israeli prisoner at 3:10 pm, whose sentence was shorter than that of the man who was released. They were just asking for parole at the wrong time of day.

There was nothing malicious or even unusual about the judges' behavior, which was reported earlier this year by Jonathan Levav of Stanford and Shai Danziger of Ben-Gurion University. The judges' erratic judgment was due to the occupational hazard of being, as George W. Bush once put it, "the decider." The mental work of ruling on case after case, whatever the individual merits, wore them down. This sort of decision fatigue can make quarterbacks prone to dubious choices late in the game and CFO's prone to disastrous dalliances late in the evening. It routinely warps the judgment of everyone, executive and non-executive, rich and poor – in fact, it can take a special toll on the poor. Yet few people are even aware of it, and researchers are only beginning to understand why it happens and how to counteract it.

Decision fatigue helps explain why ordinarily sensible people get angry at colleagues and families, splurge on clothes, buy junk food at the supermarket and can't resist the dealer's offer to rustproof their new car. No matter how rational and high-minded you try to be, you can't make decision after decision without paying a biological price. It's different from ordinary physical fatigue – you're not consciously aware of being tired – but you're low on mental energy. The more choices you make throughout the day, the harder each one becomes for your brain, and eventually it looks for shortcuts, usually in either of two very different ways. One shortcut is to become reckless: to act impulsively instead of expending the energy to first think through the consequences. (Sure, tweet that photo! What could go wrong?) The other shortcut is the ultimate energy saver: do nothing. Instead of agonizing over decisions, avoid any choice. Ducking a decision often creates bigger problems in the long run, but for the moment, it eases the mental strain. You start to resist any change, any potentially risky move – like releasing a prisoner who might commit a crime. So the fatigued judge on a parole board takes the easy way out, and the prisoner keeps doing time.

A Failed Freudian Hypothesis is Proved Half Correct

Decision fatigue is the newest discovery involving a phenomenon called ego depletion, a term coined by the social psychologist Roy F. Baumeister in homage to a Freudian hypothesis. Freud speculated that the self, or ego, depended on mental activities involving the transfer of energy. He was vague about the details, though, and quite wrong about some of them (like his idea that artists "sublimate" sexual energy into their work, which would imply that adultery should be especially rare at artists' colonies). Freud's energy model of the self was generally ignored until the end of the century, when Baumeister began studying mental discipline in a series of experiments, first at Case Western and then at Florida State University.

These experiments demonstrated that there is a finite store of mental energy for exerting self-control. When people fended off the temptation to scarf down M&M's or freshly baked chocolate-chip cookies, they were then less able to resist other temptations. When they forced themselves to remain stoic during a tearjerker movie, afterward they gave up more quickly on lab tasks requiring self-discipline, like working on a geometry puzzle or squeezing a hand-grip exerciser. Willpower turned out to be more than a folk concept or a metaphor. It really was a form of mental energy that could be exhausted. The experiments confirmed the 19th-century notion of willpower being like a muscle that was fatigued with use, a force that could be conserved by avoiding temptation. To study the process of ego depletion, researchers concentrated initially on acts involving self-control – the kind of self-discipline popularly associated with willpower, like resisting a bowl of ice cream. They weren't concerned with routine decision-making, like choosing between chocolate and vanilla, a mental process that they assumed was quite distinct and much less strenuous. Intuitively, the chocolate-vanilla choice didn't appear to require willpower.

But then a postdoctoral fellow, Jean Twenge, started working at Baumeister's laboratory right after planning her wedding. As Twenge studied the results of the lab's ego-depletion experiments, she remembered how exhausted she felt the evening she and her fiancé went through the ritual of registering for gifts. Did they want plain white china or something with a pattern? Which brand of knives? How many towels? What kind of sheets? Precisely how many threads per square inch?

"By the end, you could have talked me into anything," Twenge told her new colleagues. The symptoms sounded familiar to them too, and gave them an idea. A nearby department store was holding a going-out-of-business sale, so researchers from the lab went off to fill their car trunks with simple products – not exactly wedding-quality gifts, but sufficiently appealing to interest

college students. When they came to the lab, the students were told they would get to keep one item at the end of the experiment, but first they had to make a series of choices. Would they prefer a pen or a candle? A vanilla-scented candle or an almond-scented one? A candle or a T-shirt? A black T-shirt or a red T-shirt? A control group, meanwhile – let's call them the non-deciders – spent an equally long period contemplating all these same products without having to make any choices. They were asked just to give their opinion of each product and report how often they had used such a product in the last six months.

The Perils of "Shopping 'till Dropping"

Afterward, all the participants were given one of the classic tests of self-control: holding your hand in ice water for as long as you can. The impulse is to pull your hand out, so self-discipline is needed to keep the hand underwater. The deciders gave up much faster; they lasted 28 seconds, less than half the 67-second average of the non-deciders. Making all those choices had apparently sapped their willpower, and it wasn't an isolated effect. It was confirmed in other experiments testing students after they went through exercises like choosing courses from the college catalog.

For a real-world test of their theory, the lab's researchers went into that great modern arena of decision making: the suburban mall. They interviewed shoppers about their experiences in the stores that day and then asked them to solve some simple arithmetic problems. The researchers politely asked them to do as many as possible but said they could quit at any time. Sure enough, the shoppers who had already made the most decisions in the stores gave up the quickest on the math problems. When you shop till you drop, your willpower drops, too.

Any decision, whether it's what pants to buy or whether to start a war, can be broken down into what psychologists call the Rubicon model of action phases, in honor of the river that separated Italy from the Roman province of Gaul. When Caesar reached it in 49 BC, on his way home after conquering the Gauls, he knew that a general returning to Rome was forbidden to take his legions across the river with him, lest it be considered an invasion of Rome. Waiting on the Gaul side of the river, he was in the "pre-decisional phase" as he contemplated the risks and benefits of starting a civil war. Then he stopped calculating and crossed the Rubicon, reaching the "post-decisional phase," which Caesar defined much more felicitously: "The die is cast."

Crossing the Rubicon

The whole process could deplete anyone's willpower, but which phase of the decision-making process was most fatiguing? To find out, Kathleen Vohs, a former colleague of Baumeister's now at the University of Minnesota, performed an experiment using the self-service Web site of Dell Computers. One group in the experiment carefully studied the advantages and disadvantages of various features available for a computer – the type of screen, the size of the hard drive, etc. – without actually making a final decision on which ones to choose. A second group was given a list of predetermined specifications and told to configure a computer by going through the laborious, step-by-step process of locating the specified features among the arrays of options and then clicking on the right ones. The purpose of this was to duplicate everything that happens in the post-decisional phase, when the choice is implemented. The third group had to figure out for themselves which features they wanted on their computers and go through the process of choosing them; they didn't simply ponder options (like the first group) or implement others' choices (like the second group). They had to cast the die, and that turned out to be the most fatiguing task of all. When self-control was measured, they were the one who were most depleted, by far.

The experiment showed that crossing the Rubicon is more tiring than anything that happens on either bank – more mentally fatiguing than sitting on the Gaul side contemplating your options or marching on Rome once you've crossed. As a result, someone without Caesar's willpower is liable to stay put. To a fatigued judge, denying parole seems like the easier call not only because it preserves the status quo and eliminates the risk of a parolee going on a crime spree but also because it leaves more options open: the judge retains the option of paroling the prisoner at a future date without sacrificing the option of keeping him securely in prison right now. Part of the resistance against making decisions comes from our fear of giving up options. The word "decide" shares an etymological root with "homicide," the Latin word *caedere*, meaning "to cut down" or "to kill," and that loss looms especially large when decision fatigue sets in.

Once you're mentally depleted, you become reluctant to make trade-offs, which involve a particularly advanced and taxing form of decision making. In the rest of the animal kingdom, there aren't a lot of protracted negotiations between predators and prey. To compromise is a complex human ability and therefore one of the first to decline when willpower is depleted. You become what researchers call a cognitive miser, hoarding your energy. If you're shopping, you're liable to look at only one dimension, like price: just give me the cheapest. Or you indulge yourself by looking at quality: I want the very best (an especially easy strategy if someone else is paying). Decision fatigue leaves you vulnerable to marketers who know how to time their sales, as Jonathan Levav, the Stanford professor, demonstrated in experiments involving tailored suits and new cars.

The idea for these experiments also happened to come in the preparations for a wedding, a ritual that seems to be the decision-fatigue equivalent of Hell Week. At his fiancée's suggestion, Levav visited a tailor to have a bespoke suit made and began going through the choices of fabric, type of lining and style of buttons, lapels, cuffs and so forth.

"By the time I got through the third pile of fabric swatches, I wanted to kill myself," Levav recalls. "I couldn't tell the choices apart anymore. After a while my only response to the tailor became 'What do you recommend?' I just couldn't take it."

Levav ended up not buying any kind of bespoke suit (the $2,000 price made that decision easy enough), but he put the experience to use in a pair of experiments conducted with Mark Heitmann, then at Christian-Albrechts University in Germany; Andreas Herrmann, at the University of St. Gallen in Switzerland; and Sheena Iyengar, of Columbia. One involved asking MBA students in Switzerland to choose a bespoke suit; the other was conducted at German car dealerships, where customers ordered options for their new sedans. The car buyers – and these were real customers spending their own money – had to choose, for instance, among 4 styles of gearshift knobs, 13 kinds of wheel rims, 25 configurations of the engine and gearbox and a palette of 56 colors for the interior.

As they started picking features, customers would carefully weigh the choices, but as decision fatigue set in, they would start settling for whatever the default option was. And the more tough choices they encountered early in the process – like go-

ing through those 56 colors to choose the precise shade of gray or brown – the quicker people became fatigued and settled for the path of least resistance by taking the default option. By manipulating the order of the car buyers' choices, the researchers found that the customers would end up settling for different kinds of options, and the average difference totaled more than 1,500 euros per car (about $2,000 at the time). Whether the customers paid a little extra for fancy wheel rims or a lot extra for a more powerful engine depended on when the choice was offered and how much willpower was left in the customer.

Similar results were found in the experiment with custom-made suits: once decision fatigue set in, people tended to settle for the recommended option. When they were confronted early on with the toughest decisions – the ones with the most options, like the 100 fabrics for the suit – they became fatigued more quickly and also reported enjoying the shopping experience less.

Shopping can be especially tiring for the poor, who have to struggle continually with trade-offs. Most of us in America won't spend a lot of time agonizing over whether we can afford to buy soap, but it can be a depleting choice in rural India. Dean Spears, an economist at Princeton, offered people in 20 villages in Rajasthan in northwestern India the chance to buy a couple of bars of brand-name soap for the equivalent of less than 20 cents. It was a steep discount off the regular price, yet even that sum was a strain for the people in the 10 poorest villages. Whether or not they bought the soap, the act of making the decision left them with less willpower, as measured afterward in a test of how long they could squeeze a hand grip. In the slightly more affluent villages, people's willpower wasn't affected significantly. Because they had more money, they didn't have to spend as much effort weighing the merits of the soap versus, say, food or medicine.

Spears and other researchers argue that this sort of decision fatigue is a major – and hitherto ignored – factor in trapping people in poverty. Because their financial situation forces them to make so many trade-offs, they have less willpower to devote to school, work and other activities that might get them into the middle class. It's hard to know exactly how important this factor is, but there's no doubt that willpower is a special problem for poor people. Study after study has shown that low self-control correlates with low income as well as with a host of other problems, including poor achievement in school, divorce, crime, alcoholism and poor health. Lapses in self-control have led to the notion of the "undeserving poor" – epitomized by the image of the welfare mom using food stamps to buy junk food – but Spears urges sympathy for someone who makes decisions all day on a tight budget. In one study, he found that when the poor and the rich go shopping, the poor are much more likely to eat during the shopping trip. This might seem like confirmation of their weak character – after all, they could presumably save money and improve their nutrition by eating meals at home instead of buying ready-to-eat snacks like Cinnabons, which contribute to the higher rate of obesity among the poor. But if a trip to the

Why the Toronto Library Closings Are a Hard Nut for Our Mayor to Crack

If you have buried the crucial chapters of your history, you become all the more dependent on the memories of your most ancient citizens. So here I come.

I lived in a distant Western suburb of Toronto during the Great Depression and found myself short of the car fare to get to my university course as well as of the means for buying the texts for my course. So Toronto's celebrated branch library system not only provided the means of resting my feet but an opportunity of consulting books not too irrelevant to my maths and physics course.

When a world so irremediably short of car tickets and shoes in good repair could not bungle on, we almost inevitably found ourselves in the Second World War. I can't suppress the thought that among the Canadian soldiers who didn't come back from the war, had some of their happiest memories of their homeland, the time they were able to spend, though unemployed and hungry, in Toronto's celebrated pubic library system.

That might help our mayor, Bob Ford, understand the resistance he is encountering to his proposal to cut some $700 million in cuts to Toronto's branch library system. I quote from *The Toronto Star* (22/06, "Closures may be hard to sell" by Daniel Dale, Library Affairs Reporter): "Councillor James Pasternak is a reliable vote for Mayor Bob Ford. But if Ford proposes library closures, Pasternak says he will dissent.

"He'd like a new library in his ward. Since he doesn't think he can get one, he is lobbying to expand Centennial Library, or at least get longer hours.

"'I wouldn't support the closing of branches,' he said.

"The latest KPMG report on Toronto's Programs and services says the city should consider deep cuts to the library, reduced hours and fewer programs.

"Pasternak's position is indicative of the difficulties Ford will face if he seizes on these suggestions.

"Toronto's library system is indicative of the difficulties Ford will face if he seizes on these suggestions.

"Toronto's library system is among the world's largest. It boasts 98 branches excluding the specialized Urban Affairs branch that council decided to shut down. According to the KPMG reports, Montreal has 44 branches, Chicago 78, and Boston 26 (though that's for a population one-quarter of Toronto's). But library staff say Toronto has fewer libraries per person than Ottawa and Vancouver.

"Councillor Doug Ford has complained that the city has too many. Deputy Mayor Doug Holiday said Thursday, 'I don't know if there's too many. I guess we need some input from our own staff on that – how well used they are.'

"Library spokesperson, Anne Marie Aikins said staff were unable to provide branch data Thursday.

"But overall, the system is immensely and increasingly popular and was its busiest last year ever.

"Per person, library data shows, Toronto has the busiest urban system in the world.

"'As a political exercise, I think it's going to be difficult to convince a society of readers to accept less library service,' said library board vice-chair Adam Chaleff-Freudenthaler.

"Library staff have independently proposed a new money-making measure: an increase to fines and fees expected to net $500,000."

W.K.

supermarket induces more decision fatigue in the poor than in the rich – because each purchase requires more mental trade-offs – by the time they reach the cash register, they'll have less willpower left to resist the Mars bars and Skittles. Not for nothing are these items called impulse purchases.

And this isn't the only reason that sweet snacks are featured prominently at the cash register, just when shoppers are depleted after all their decisions in the aisles. With their willpower reduced, they're more likely to yield to any kind of temptation, but they're especially vulnerable to candy and soda and anything else offering a quick hit of sugar. While supermarkets figured this out a long time ago, only recently did researchers discover why.

The discovery was an accident resulting from a failed experiment at Baumeister's lab. The researchers set out to test something called the Mardi Gras theory – the notion that you could build up willpower by first indulging yourself in pleasure, the way Mardi Gras feasters do just before the rigors of Lent. In place of a Fat Tuesday breakfast, the chefs in the lab at Florida State whipped up lusciously thick milkshakes for a group of subjects who were resting in between two laboratory tasks requiring willpower. Sure enough, the delicious shakes seemed to strengthen willpower by helping people perform better than expected on the next task. So far, so good. But the experiment also included a control group of people who were fed a tasteless concoction of low-fat dairy glop. It provided them with no pleasure, yet it produced similar improvements in self-control. The Mardi Gras theory looked wrong. Besides tragically removing an excuse for romping down the streets of New Orleans, the result was embarrassing for the researchers. Matthew Gailliot, the graduate student who ran the study, stood looking down at his shoes as he told Baumeister about the fiasco.

Baumeister tried to be optimistic. Maybe the study wasn't a failure. Something had happened, after all. Even the tasteless glop had done the job, but how? If it wasn't the pleasure, could it be the calories? At first the idea seemed a bit daft. For decades, psychologists had been studying performance on mental tasks without worrying much about the results being affected by dairy-product consumption. They liked to envision the human mind as a computer, focusing on the way it processed information. In their eagerness to chart the human equivalent of the computer's chips and circuits, most

psychologists neglected one mundane but essential part of the machine: the power supply. The brain, like the rest of the body, derived energy from glucose, the simple sugar manufactured from all kinds of foods. To establish cause and effect, researchers at Baumeister's lab tried refueling the brain in a series of experiments involving lemonade mixed either with sugar or with a diet sweetener. The sugary lemonade provided a burst of glucose, the effects of which could be observed right away in the lab; the sugarless variety tasted quite similar without providing the same burst of glucose. Again and again, the sugar restored willpower, but the artificial sweetener had no effect. The glucose would at least mitigate the ego depletion and sometimes completely reverse it. The restored willpower improved people's self-control as well as the quality of their decisions: they resisted irrational bias when making choices, and when asked to make financial decisions, they were more likely to choose the better long-term strategy instead of going for a quick payoff. The ego-depletion effect was even demonstrated with dogs in two studies by Holly Miller and Nathan DeWall at the University of Kentucky. After obeying sit and stay commands for 10 minutes, the dogs performed worse on self-control tests and were also more likely to make the dangerous decision to challenge another dog's turf. But a dose of glucose restored their willpower.

Despite this series of findings, brain researchers still had some reservations about the glucose connection. Skeptics pointed out that the brain's overall use of energy remains about the same regardless of what a person is doing, which doesn't square easily with the notion of depleted energy affecting willpower. Among the skeptics was Todd Heatherton, who worked with Baumeister early in his career and eventually wound up at Dartmouth, where he became a pioneer of what is called social neuroscience: the study of links between brain processes and social behavior. He believed in ego depletion, but he didn't see how this neural process could be caused simply by variations in glucose levels. To observe the process – and to see if it could be reversed by glucose – he and his colleagues recruited 45 female dieters and recorded images of their brains as they reacted to pictures of food. Next the dieters watched a comedy video while forcing themselves to suppress their laughter – a standard if cruel way to drain mental energy and induce ego depletion. Then they were again shown pictures of food, and the new round of brain scans revealed the effects of ego depletion: more activity in the nucleus accumbens, the brain's reward center, and a corresponding decrease in the amygdala, which ordinarily helps control impulses. The food's appeal registered more strongly while impulse control weakened – not a good combination for anyone on a diet. But suppose people in this ego-depleted state got a quick dose of glucose? What would a scan of their brains reveal?

The results of the experiment were announced in January, during Heatherton's speech accepting the leadership of the Society for Personality and Social Psychology, the world's largest group of social psychologists. In his presidential address at the annual meeting in San Antonio, Heatherton reported that administering glucose completely reversed the brain changes wrought by depletion – a finding, he said, that thoroughly surprised him.

Heatherton's results did much more than provide additional confirmation that glucose is a vital part of willpower; they helped solve the puzzle over how glucose could work without global changes in the brain's total energy use. Apparently ego depletion causes activity to rise in some parts of the brain and to decline in others. Your brain does not stop working when glucose is low. It stops doing some things and starts doing others. It responds more strongly to immediate rewards and pays less attention to long-term prospects.

The discoveries about glucose help explain why dieting is a uniquely difficult test of self-control – and why even people with phenomenally strong willpower in the rest of their lives can have such a hard time losing weight. They start out the day with virtuous intentions, resisting croissants at breakfast and dessert at lunch, but each act of resistance further lowers their willpower. As their willpower weakens late in the day, they need to replenish it. But to re-supply that energy, they need to give the body glucose. They're trapped in a nutritional catch-22:

1. In order not to eat, a dieter needs willpower.

2. In order to have willpower, a dieter

needs to eat.

As the body uses up glucose, it looks for a quick way to replenish the fuel, leading to a craving for sugar. After performing a lab task requiring self-control, people tend to eat more candy but not other kinds of snacks, like salty, fatty potato chips. The mere expectation of having to exert self-control makes people hunger for sweets. A similar effect helps explain why many women yearn for chocolate and other sugary treats just before menstruation: their bodies are seeking a quick replacement as glucose levels fluctuate. A sugar-filled snack or drink will provide a quick improvement in self-control (that's why it's convenient to use in experiments), but it's just a temporary solution. The problem is that what we identify as sugar doesn't help as much over the course of the day as the steadier supply of glucose we would get from eating proteins and other more nutritious foods.

The benefits of glucose were unmistakable in the study of the Israeli parole board. In midmorning, usually a little before 10:30, the parole board would take a break, and the judges would be served a sandwich and a piece of fruit. The prisoners who appeared just before the break had only about a 20 percent chance of getting parole, but the ones appearing right after had around a 65 percent chance. The odds dropped again as the morning wore on, and prisoners really didn't want to appear just before lunch: the chance of getting parole at that time was only 10 percent. After lunch it soared up to 60 percent, but only briefly. Remember that Jewish Israeli prisoner who appeared at 3:10 p.m. and was denied parole from his sentence for assault? He had the misfortune of being the sixth case heard after lunch. But another Jewish Israeli prisoner serving the same sentence for the same crime was lucky enough to appear at 1:27 pm, the first case after lunch, and he was rewarded with parole. It must have seemed to him like a fine example of the justice system at work, but it probably had more to do with the judge's glucose levels.

It's simple enough to imagine reforms for the parole board in Israel – like, say, restricting each judge's shift to half a day, preferably in the morning, interspersed with frequent breaks for food and rest. But it's not so obvious what to do with the decision fatigue affecting the rest of society. Even if we could all afford to work half-days, we would still end up depleting our willpower all day long, as Baumeister and his colleagues found when they went into the field in Würzburg in central Germany. The psychologists gave preprogrammed BlackBerrys to more than 200 people going about their daily routines for a week. The phones went off at random intervals, prompting the people to report whether they were currently experiencing some sort of desire or had recently felt a desire. The painstaking study, led by Wilhelm Hofmann, then at the University of Würzburg, collected more than 10,000 momentary reports from morning until midnight.

Desire turned out to be the norm, not the exception. Half the people were feeling some desire when their phones went off – to snack, to goof off, to express their true feelings to their bosses – and another quarter said they had felt a desire in the past half-hour. Many of these desires were ones that the men and women were trying to resist, and the more willpower people expended, the more likely they became to yield to the next temptation that came along. When faced with a new desire that produced some I-want-to-but-I-really-shouldn't sort of inner conflict, they gave in more readily if they had already fended off earlier temptations, particularly if the new temptation came soon after a previously reported one.

The results suggested that people spend between three and four hours a day resisting desire. Put another way, if you tapped four or five people at any random moment of the day, one of them would be using willpower to resist a desire. The most commonly resisted desires in the phone study were the urges to eat and sleep, followed by the urge for leisure, like taking a break from work by doing a puzzle or playing a game instead of writing a memo. Sexual urges were next on the list of most-resisted desires, a little ahead of urges for other kinds of interactions, like checking Facebook. To ward off temptation, people reported using various strategies. The most popular was to look for a distraction or to undertake a new activity, although sometimes they tried suppressing it directly or simply toughing their way through it. Their success was decidedly mixed. They were pretty good at avoiding sleep, sex and the urge to spend money, but not so good at resisting the lure of television or the Web or the general temptation to relax instead of work.

We have no way of knowing how much our ancestors exercised self-control in the days before BlackBerrys and social psychologists, but it seems likely that many of them were under less ego-depleting strain. When there were fewer decisions, there was less decision fatigue. Today we feel overwhelmed because there are so many choices. Your body may have dutifully reported to work on time, but your mind can escape at any instant. A typical computer user looks at more than three dozen Web sites a day and gets fatigued by the continual decision making – whether to keep working on a project, check out *TMZ*, follow a link to YouTube or buy something on Amazon. You can do enough damage in a 10-minute online shopping spree to wreck your budget for the rest of the year.

The cumulative effect of these temptations and decisions isn't intuitively obvious. Virtually no one has a gut-level sense of just how tiring it is to decide. Big decisions, small decisions, they all add up. Choosing what to have for breakfast, where to go on vacation, whom to hire, how much to spend – these all deplete willpower, and there's no telltale symptom of when that willpower is low. It's not like getting winded or hitting the wall during a marathon. Ego depletion manifests itself not as one feeling but rather as a propensity to experience everything more intensely. When the brain's regulatory powers weaken, frustrations seem more irritating than usual. Impulses to eat, drink, spend and say stupid things feel more powerful (and alcohol causes self-control to decline further). Like those dogs in the experiment, ego-depleted humans become more likely to get into needless fights over turf. In making decisions, they take illogical shortcuts and tend to favor short-term gains and delayed costs. Like the depleted parole judges, they become inclined to take the safer, easier option even when that option hurts someone else.

"Good decision making is not a trait of the person, in the sense that it's always there," Baumeister says. "It's a state that fluctuates." His studies show that people with the best self-control are the ones who structure their lives so as to conserve willpower. They don't schedule endless back-to-back meetings. They avoid temptations like all-you-can-eat buffets, and they establish habits that eliminate the mental effort of making choices. Instead of deciding every morning whether or not to force themselves to exercise, they set up regular appointments to work out with a friend. Instead of counting on willpower to remain robust all day, they conserve it so that it's available for emergencies and important decisions.

"Even the wisest people won't make good choices when they're not rested and their glucose is low," Baumeister points out.

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A New Military Technology will Reshape Our Lives

The New York Times (20/06, "War Evolves with Drones, Some tiny as Bugs" by Elisabeth Bumiller and Thom Shanker) informs us: "Wright-Patterson Air Force Base, Ohio – Two miles from the cow pasture where the Wright Brothers learned to fly the first airplanes, military researchers are at work on another revolution in the air: shrinking unmanned drones, the kind that fire missiles into Pakistan and spy on insurgents in Afghanistan, to the size of insects and birds.

"The base's indoor flight lab is called the 'micro-aviary,' and for good reason. The drones in development here are designed to replicate the flight mechanics of moths, hawks and other inhabitants of the natural world. 'We're looking at how you hide in plain sight,' said Greg Parker, an aerospace engineer, as he held up a prototype of a mechanical hawk that in the future may carry out espionage or kill.

"Half a world away in Afghanistan, Marines marvel at one of the new blimp-like spy balloons that float from a tether 15,000 feet above one of the bloodiest outposts of the war, Sangin in Helmand Province. The balloon, called an aerostat, can transmit live video – from as far as 20 miles away – of insurgents planting homemade bombs. 'It's been a game-changer for me,' Capt. Nickoli Johnson said in Sangin this spring. 'I want a bunch more put in.'

"From blimps to bugs, an explosion in aerial drones is transforming the way America fights and thinks about its wars. Predator drones, the Cessna-sized workhorses that have dominated unmanned flight since the September 11, 2001, attacks, are by now a brand name, known and feared around the world. But far less widely known are the sheer size, variety and audaciousness of a rapidly expanding drone universe, along with the dilemmas that come with it.

"The Pentagon now has some 7,000 aerial drones, compared with fewer than 50 a decade ago. Within the next decade the Air Force anticipates a decrease in manned aircraft but expects its number of 'multi-role' aerial drones like the Reaper – the ones that spy as well as strike – to nearly quadruple, to 536. Already the Air Force is training more remote pilots, 350 this year alone, than fighter and bomber pilots combined.

'"It's a growth market,' said Ashton B. Carter, the Pentagon's chief weapons buyer.

"The Pentagon has asked Congress for nearly $5 billion for drones next year, and by 2030 envisions ever more stuff of science fiction: 'spy flies' equipped with sensors and micro-cameras to detect enemies, nuclear weapons or victims in rubble. Peter W. Singer, a scholar at the Brookings Institution and the author of *Wired for War*, a book about military robotics, calls them 'bugs with bugs.'

"In recent months drones have been more crucial than ever in fighting wars and terrorism. The Central Intelligence Agency spied on Osama bin Laden's compound in Pakistan by video transmitted from a new bat-winged stealth drone, the RQ-170 Sentinel, otherwise known as the 'Beast of Kandahar,' named after it was first spotted on a runway in Afghanistan.

"One of Pakistan's most wanted militants, Ilyas Kashmiri, was reported dead this month in a CIA drone strike, part of an aggressive drone campaign that administration officials say has helped paralyze Al Qaeda in the region – and has become a possible rationale for an accelerated withdrawal of American forces from Afghanistan. More than 1,900 insurgents in Pakistan's tribal areas have been killed by American drones since 2006, according to the Web site www.longwarjournal.com.

"In April the United States began using armed Predator drones against Col. Muammar el-Qaddafi's forces in Libya. Last month a CIA-armed Predator aimed a missile at Anwar al-Awlaki, the radical American-born cleric believed to be hiding in Yemen. The Predator missed, but American drones continue to patrol Yemen's skies.

"Large or small, drones raise questions about the growing disconnect between the American public and its wars. Military ethicists concede that drones can turn war into a video game, inflict civilian casualties and, with no Americans directly at risk, more easily draw the United States into conflicts. Drones have also created a crisis of information for analysts on the end of a daily video deluge. Not least, the Federal Aviation Administration has qualms about expanding their test flights at home, as the Pentagon would like. Last summer, fighter jets were almost scrambled after a rogue Fire Scout drone, the size of a small helicopter, wandered into Washington's restricted airspace.

"Within the military, no one disputes that drones save American lives. Many see them as advanced versions of 'stand-off weapons systems,' like tanks or bombs dropped from aircraft, that the United States has used for decades. 'There's a kind of nostalgia for the way wars used to be,' said Deane-Peter Baker, an ethics professor at the United States Naval Academy, referring to noble notions of knight-on-knight conflict. Drones are part of a post-heroic age, he said, and in his view it is not always a problem if they lower the threshold for war. 'It is a bad thing if we didn't have a just cause in the first place,' Mr. Baker said. 'But if we did have a just cause, we should celebrate anything that allows us to pursue that just cause.'

"To Mr. Singer of Brookings, the debate over drones is like debating the merits of computers in 1979. They are here to stay, and the boom has barely begun. 'We are at the Wright Brothers Flier stage of this,' he said."

Mimicking Insect Flight

"A tiny helicopter is buzzing menacingly as it prepares to lift off in the Wright-Patterson aviary, a warehouse-like room lined with 60 motion-capture cameras to track the little drone's every move. The helicopter, a foot-long hobbyists' model, has been programmed by a computer to fly itself. Soon it is up in the air making purposeful figure eights.

'"What it's doing out here is nothing special,' said Dr. Parker, the aerospace engineer. The researchers are using the helicopter to test technology that would make it possible for a computer to fly, say, a drone that looks like a dragonfly. 'To have a computer do it 100 percent of the time, and to do it with winds, and to do it when it doesn't really know where the vehicle is, those are the kinds of technologies that we're trying to develop,' Dr. Parker said.

"The push right now is developing 'flapping wing' technology, or recreating the physics of natural flight, but with a focus on insects rather than birds. Birds have complex muscles that move their wings, making it difficult to copy their aerodynamics. Designing insects is hard, too, but their wing motions are simpler. 'It's a lot easier problem,' Dr. Parker said.

"In February, researchers unveiled a hummingbird drone, built by the firm AeroVironment for the secretive Defense

Advanced Research Projects Agency, which can fly at 11 miles per hour and perch on a windowsill. But it is still a prototype. One of the smallest drones in use on the battlefield is the three-foot-long Raven, which troops in Afghanistan toss by hand like a model airplane to peer over the next hill.

"There are some 4,800 Ravens in operation in the Army, although plenty get lost. One American service member in Germany recalled how five soldiers and officers spent six hours tramping through a dark Bavarian forest – and then sent a helicopter – on a fruitless search for a Raven that failed to return home from a training exercise. The next month a Raven went AWOL again, this time because of a programming error that sent it south. 'The initial call I got was that the Raven was going to Africa,' said the service member, who asked for anonymity because he was not authorized to discuss drone glitches.

"In the midsize range: the Predator, the larger Reaper and the smaller Shadow, all flown by remote pilots using joysticks and computer screens, many from military bases in the United States. A Navy entry is the X-47B, a prototype designed to take off and land from aircraft carriers automatically and, when commanded, drop bombs. The X-47B had a maiden 29-minute flight over land in February. A larger drone is the Global Hawk, which is used for keeping an eye on North Korea's nuclear weapons activities. In March, the Pentagon sent a Global Hawk over the stricken Fukushima Daiichi nuclear plant in Japan to assess the damage."

A Tsunami of Data

"The future world of drones is here inside the Air Force headquarters at Joint Base Langley-Eustis, VA, where hundreds of flat-screen TVs hang from industrial metal skeletons in a cavernous room, a scene vaguely reminiscent of a rave club. In fact, this is one of the most sensitive installations for processing, exploiting and disseminating a tsunami of information from a global network of flying sensors.

"The numbers are overwhelming. Since the September 11 attacks, the hours the Air Force devotes to flying missions for intelligence, surveillance and reconnaissance have gone up 3,100 percent, most of that from increased operations of drones. Every day, the Air Force must process almost 1,500 hours of full-motion video and another 1,500 still images, much of it from Predators and Reapers on around-the-clock combat air patrols.

"The pressures on humans will only increase as the military moves from the limited 'soda straw' views of today's sensors to new 'Gorgon Stare' technology that can capture live video of an entire city – but that requires 2,000 analysts to process the data feeds from a single drone, compared with 19 analysts per drone today.

"At Wright-Patterson, Maj. Michael L. Anderson, a doctoral student at the base's advanced navigation technology center, is focused on another part of the future: building wings for a drone that might replicate the flight of the hawk moth, known for their deadly furtive hovering skills. 'It's impressive what they can do,' Major Anderson said, 'compared to what our clumsy aircraft can do.'"

Now shift our adage of society's thinking being shaped by its technological changes to the current new technology of warfare studies the flight and killing styles of the hawk, moth, or tiny lethal bugs, in the secrecy and sneak-up of killing virtuosities just beginning to take over. That certainly requires that we review our suppressed history to defend ourselves against the deadly implications of the new furtive technologies of mass killings just being developed.

William Krehm

The Public Need Only Awaken to Its Suppressed History for "The American Dream" to Come True

The New York Times (08/10) in a full-page ad alerts us, "The American Dream. It Only Works When People Do."

The sadness of this appeal is that humanity's urgent need at this critical moment is not to dream, but to *awaken*. Unless we do, it could be the end, not only of our culture, but of the human race itself.

The advertisement cites 10 points for "a contract for the American dream – invest in America's infrastructure; create 21st-century energy jobs; invest in public education; offer Medicare for all; make work pay; secure social security; return to fairer tax rates; end the wars and invest at home; tax Wall Street speculation; strengthen democracy."

An excess of demand over available supply, will on a reasonably effective market push up prices temporarily. But that is not the same as reversing that relationship to assume that whenever prices move up, there has been an excess of demand over available supply.

It could mean that our society needs a greater input of public over private services, and to pay for this requires higher taxes. Over the past few centuries, but particularly since World War II, the world has undergone technological revolutions, population explosions, migrations, and greatly stepped-up urbanization. Even a tenured economist moving from the countryside to a modern metropolis cannot expect his living costs to stay the same.

That was the greatest lesson to come out of World War II. No sooner were the armistices signed than Washington sent many hundreds of economists to defeated Japan and Germany to study the damage inflicted to determine how long it would take for those defeated countries to become the formidable traders that they once were. Some sixteen years later, one of these economists, Theodore Schultz of the University of Chicago, published a paper in which he explained why he and his colleagues had been so wide of the mark in their forecasts. The attributed any rise in the price to be inflation, whereas in the modern world human capital – education, health, social security, adequate care of the environment, and necessary infrastructures for the countless rapidly growing cities call for a growing input of human capital. The resulting rise in the price level must not be confused with inflation, i.e., an excess of demand over supply. There might well have been no excess of market demand over supply, but much of the new capital invested was simply not invested on the market, but directly by the government itself. That means that part of the price rise was not market-determined but merely reflected the growing price prepaid human capital made by governments themselves. Schultz went on to identify such non-marketed investments as the most dynamic investment a government can make. And it comes prepaid. Moreover, the children of healthy parents tend to be healthier, of educated parents, more readily educated. Britain is still enjoying a return from what the school at Stratford-on-Avon may have spent on teaching Billy Shakespeare the elements of English tongue.

Just to formulate this growing feature of our economic scene is to see the costly fallacy of the proposition that because prices are up, we must drive up interest rates as well.

Some forty years ago. I made the point that a higher price level *might* indicate *not market inflation,* but the strictly structural effect of the increase of the public sector component of our economy. This I named the "social lien." We must not refer to it as "inflation" since it has very different causes and hence some very different effects. Governments have shut their eyes to this distinction, though for a brief period some decades ago even the Federal Reserve and the International Bank of Settlements was distinguishing between "good inflation" – 2% or 3% – and "bad inflation." What a way of running a discipline on which society's survival depends!

Those who have proclaimed the goal "zero inflation" have reduced the weaponry to achieve that to one blunt tool – higher interest rates *per se.* High interest rates are the favorite vehicle of the usurer in the process of becoming a financier, but they are also deadly to life, efficiency and production.

Capital Budgeting also known as Accrual Accountancy

This draws a clear distinction between spending consumed within the current year and those that have a longer useful life. The depreciated value of the latter must be recorded as an asset. This has been done in the private sector. When not, the owner is exposed to prosecution. Hiding the unused value of a building or equipment and taking a tax credit for its full costs as an expense would be cheating the tax-collector. Pretending that a capital asset was there when in fact it was fully used up or had become worthless would bilk the company's shareholders. Our governments, however, not only resisted the advice of a Royal Commission or two and a long line of Auditors General to introduce accrual accountancy. When the penultimate of these withheld unconditional approval of two successive balance sheets of the government minister, Paul Martin had an unseemly row with him, during which the Auditor General actually used the words "cooking the books." Finally a compromise was reached with the AG signing a demeaning statement that since no money had been found by introducing accrual accountancy, it is not to be taken as a reason for spending more money. But couldn't that statement be turned around to read: since no money had actually gone out by the failure to bring in accrual accountancy, there was no reason for finance Minister Paul Martin to slash the grants to the provinces?

The cost to society of these imprudent games has been ever-growing. To begin with, writing off a capital asset in a single year creates a fictitious deficit, which is then used to collect more taxation than would be needed to balance a budget based on serious accountancy. And as with many indulgences, those practicing them cannot stop, but go onto the next thing in what too readily becomes a career. Thus Prime Minister Martin, while resisting the insistence of the Auditor General to introduce accrual accountancy, made a practice of stashing away still further government funds, using them to justify reaping the glory of restructuring the economy. Theodore Shultz was one of the hundreds of young economists sent to Japan and Germany after World War II to forecast how long it would take those once great trading nations to resume such roles again. He grasped the genius of the Japanese human capital on the fly. And from its example he formulated the greatest lesson to come out of World War II.

Schultz, a professor of Economics at the University of Chicago, concluded that human capital is the most dynamic factor in the modern world. Germany and particularly Japan proved his insight a stroke of genius. Japan not only rebuilt but reshaped its economy by transforming it from one based on textiles for which they had to import the very fibers to heavy engineering. Before the world realized what was happening the havoc wreaked in Japan by two atomic bombs had been treated very much as the great fire in Chicago caused by the lady's cow upsetting the lamp that cleared the Chicago site for a stunning modern metropolis.

For his great discovery, Schultz was celebrated, decorated, and then abruptly forgotten. COMER is about the only organization that remembers his historic achievement today. Investment in human capital is again being treated not as prepaid investment, but as an expense. At the end of that crooked path atomic warfare could well wipe out the human race.

William Krehm

Fatigue *from page 17*

That's why the truly wise don't restructure the company at 4 pm. They don't make major commitments during the cocktail hour. And if a decision must be made late in the day, they know not to do it on an empty stomach. "The best decision makers," Baumeister says, "are the ones who know when *not* to trust themselves."[1]

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Eureka – It finally emerges that our governments are simply suffering from *decision fatigue* in pressing for answers to questions for which there happens to be no answer. For how can government expect to "lick inflation" when they cannot even define the beast. A "rising price level" doesn't do the trick, since it was the greatest lesson to come out of World Two, when Washington sent hundreds of economists to Japan and Germany to study the physical destruction to foretell how long it would take for these once great trading nations to become great trading nations again. Only some sixteen years later did one of these, Theodore Schultz of the University of Chicago, publish an essay arguing that the economists had missed the point because they had mistaken any rise of the price level as "inflation," when it could simply have signaled the higher prices resulting from prepaid human capital. That was recognized as basic infrastructure in a modern economy, prepaid in advance. For a few years Schultz was celebrated for his great discovery, decorated, and then completely expunged from official memory. Economy theory was bowdlerized to present any rise in the price level to be taken for "inflation" that had to be flattened by higher interest rates.

Quite independently, I had identified the same non-market phenomenon, which I termed the "social lien" in a 41-page essay in the leading French journal on economic theory not once but twice, and over a half-dozen other journals on economic theory. Notably, at a conference at Cambridge University that I attended almost forty years later, the new tight orthodoxy imposed restricted papers. Those who questioned the new orthodoxy were isolated in special sessions run by the London School of Economics.

That is why the work reported on by Tierney is of key importance for the survival of our civilization.

W.K.

1. John Tierney is a science columnist for *The Times.* His essay is adapted from a book he wrote with Roy F. Baumeister, *Willpower: Rediscovering the Greatest Human Strength*, which comes out next month.