

THE DUELING LOOPS OF THE POLITICAL POWERPLACE

A pamphlet written in the tradition of Thomas Paine's
Common Sense, for a purpose every bit as vital

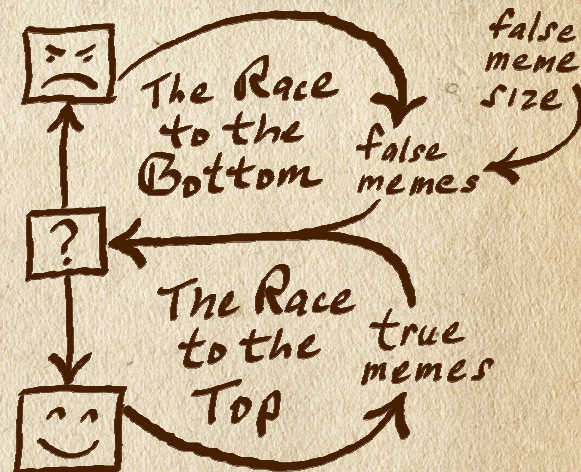
on the following interesting

S U B J E C T :

THE TOP PROBLEM FACING HUMANITY is the global environmental sustainability problem, because if it's not solved no other problem will matter. Despite the enormous catastrophe ahead if business as usual continues, the POLITICAL SYSTEMS of the world are struggling. We have been able to make only small amounts of progress.

WHY is this? WHAT is blocking change? HOW can we move forward in order to solve the problem in time?

This pamphlet presents a novel answer to these pressing questions in the form of a simple model explaining how political powerplaces work. This shines The Light of Truth on what was once Darkness.



*The mind once enlightened cannot
again become dark. ~ Thomas Paine*

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THE DUELING LOOPS OF THE POLITICAL POWERPLACE

Most effort on solving the sustainability problem focuses on its *technical side*: the proper practices that must be followed to be sustainable. But surprisingly little effort addresses why most of society is so strenuously resisting adopting those practices, which is the change resistance or *social side*.

This paper presents an analysis of the social side of the problem using a simulation model. The model shows the main source of change resistance is a fundamental structure called The Dueling Loops of the Political Powerplace. This consists of a race to the bottom among politicians battling against a race to the top. Due to the inherent structural advantage of the race to the bottom it is the dominant loop most of the time, as it is now. As long as it remains dominant, resistance to living sustainably will remain high.

The analysis has, however, uncovered a tantalizing nugget of good news. There is a promising high leverage point in this structure that has never been tried. If problem solvers could unite and push there with the proper solution elements, it appears the social side of the problem would be solved in short order, and civilization could at last enter the Age of Transition to Sustainability.

THE SOCIAL SIDE OF THE PROBLEM IS THE CRUX

The transformation of society to environmental sustainability requires three steps: The first is the profound realization we must make the change, because if we don't our descendants are doomed. The second is finding the proper practices that will allow living sustainably. The third step is adopting those practices.

Society has faltered on the third step. By now the world is aware it must live sustainably, which is the first step. There are countless practical, proven ways to do this, which is the **technical side** of the problem and the second step. But for strange and mysterious reasons society doesn't want to take the final step and adopt these practices, which is the change resistance or **social side** of the problem. *Therefore the social side of the problem is the crux.*

Here is what the third edition of *Limits to Growth* (Meadows et al., 2004) had to say about the social side of the problem:

"[The second edition of *Limits to Growth*] was published in 1992, the year of the global summit on environment and development in Rio de Janeiro. The advent of the summit seemed to prove that global society had decided to deal seriously with the important environmental problems. But we

now know that humanity failed to achieve the goals of Rio. The Rio plus 10 conference in Johannesburg in 2002 produced even less; it was almost paralyzed by a variety of ideological and economic disputes, [due to] the efforts of those pursuing their narrow national, corporate, or individual self-interests.

“...humanity has largely squandered the past 30 years...”

What is the underlying cause of such stiff, prolonged global change resistance? Whatever it is, it must be incredibly strong to cause such a powerful effect.

We might begin to find that elusive underlying cause if we drilled down and tried to determine why change resistance occurs at the national level. For example, looking at the world's sole remaining economic and military superpower, why did the US Senate vote 95 to zero in 1999 to reject the Kyoto Protocol, despite a democratic President and a strongly pro-environmental Vice President, Al Gore? Why, since the ascendancy of the George W. Bush administration in the United States in 2001, has opposition grown to the point that progress in solving the environmental sustainability problem is moving backwards? Why do US environmental NGOs face “the most hostile environment in which we have ever struggled to advance our goals,” as the Union of Concerned Scientists describes it? (USC, 2003)

If we could understand why the political system works the way it does, we could answer these questions and go further than we've ever gone before. *We could find the high leverage points in the system that would allow changing that “hostile environment” into one that actively welcomed solving the problem, and thus solve the social side of the problem.*

This paper attempts to do this by performing a structural analysis of the fundamental causes of the social side of the problem, using a simulation model. Because the structure of the model so clearly exposes the causes of systemic change resistance, the key high leverage point where problem solvers should “push” to solve the problem becomes conspicuously obvious. Three solution elements are then presented to illustrate how feasible pushing on this point could be.

THE RACE TO THE BOTTOM

There are two feedback loops in the human system that, in the large, affect citizen's lives more than anything else. They are the loops that politicians use to gain supporters.

Over time, social evolution has pared the many strategies available for gaining political support into just two main types: the use of truth (**virtue**) and the use of falsehood and favoritism (**corruption**). For example, a virtuous politician may gain supporters by stating, “I know we can't balance the budget any time soon, but I will form a panel of experts to determine what the best we can do is.” Meanwhile, a corrupt politician is garnering supporters by saying, “Economics is easy. You just put a firm hand on the tiller and go where you want to go. I can balance the budget in four years, despite what the experts are saying. They are just pundits. Don't listen to them. A vote for me is a vote for a better future.” The corrupt politician is also saying to

numerous special interest groups, “Yes, I can do that for you. No problem.” Guess who will usually win?

Falsehood and favoritism has long dominated political strategy. Most politicians use rhetoric, half truths, glittering generalities, the sin of omission, biased framing, and other types of deception to appeal to the greatest number of people possible for election or reelection. Once in office nearly all politicians engage in acts of favoritism, also known as patronage.

For example most politicians use the *ad hominem* (Latin for against the man) fallacy to attack and demonize their opponents, particularly as an election draws near. A prominent recent instance was the use of the Swift boat ads in the 2004 US presidential campaign to attack John Kerry’s character. The ads were an *ad hominem* fallacy, because they had nothing to do with Kerry’s political reasoning or positions. Other terms for the *ad hominem* fallacy are demagoguery, shooting the messenger, negative campaigning, smear tactics, and sliming your opponent.

Politicians are forced to use corruption to gain supporters, because if they do not they will lose out to those who do. This causes **The Race to the Bottom among Politicians** to appear.

To understand how the loop works, let’s start at false memes. A **mem**e is a mental belief that is transmitted (replicated) from one mind to another. Memes are a very useful abstraction for understanding human behavior because memes replicate, mutate, and follow the law of survival of the fittest, just as genes do. Rather than show falsehood and favoritism, the model is simplified. It shows only falsehood.

The more false memes transmitted, the greater the degenerates infectivity rate. The model treats the arrival of a meme the same way the body treats the arrival of a virus: it causes infection. After the “mind virus” incubates for

The Structure of the Race to the Bottom

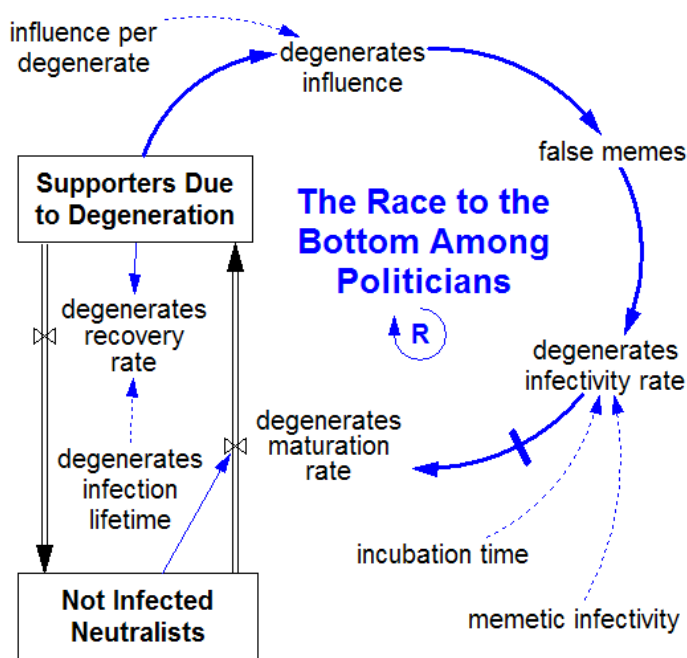


Figure 1. The loop grows in strength by using corruption in the form of highly appealing falsehood and favoritism. This increases the number of supporters of corrupt politicians, which increases their influence, which in turn increases their power to peddle still more falsehood and favoritism. Over time the loop can grow to tragically high levels.

a period of time, the infection becomes so strong that maturation occurs. This increases the degenerates maturation rate, which causes supporters to move from the pool of Not Infected Neutralists to the pool of Supporters Due to Degeneration as they become committed to the false memes they are now infected with. Supporters Due to Degeneration times influence per degenerate equals degenerates influence. The more influence a degenerate politician has, the more false memes they can transmit, and the loop starts over again. As it goes around and around, each node increases in quantity, often to astonishing levels. The loop stops growing when most supporters are committed.

A **degenerate** is someone who has fallen from the norm. They have degenerated. The loop explains why this occurs so easily. The term is not meant as a pejorative label, but rather as a hopefully temporary fall from virtue.

The dynamic behavior of the loop is shown in Figure 2. The behavior is quite simple because the model has only a single main loop.

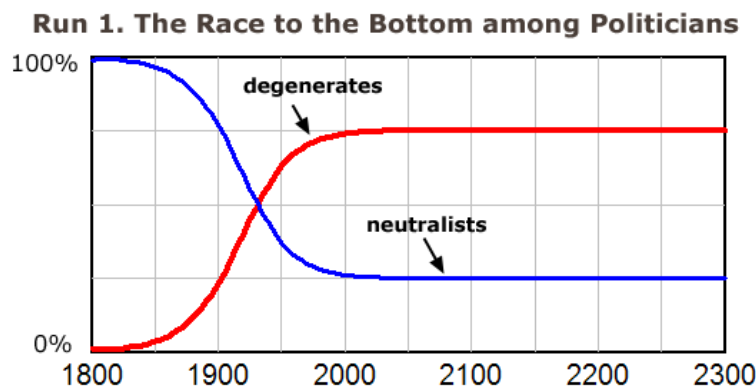


Figure 2. The simulation run starts with 1 degenerate and 99 neutralists. Over time the percentage of degenerates grows to 75% and stops. What keeps it from growing to 100% is the way degenerates can recover from their infection, after a degenerates infection lifetime of 20 years.

Corrupt politicians exploit the power of the race to the bottom by broadcasting as much falsehood and favoritism as possible to potential supporters. This is done with speeches, interviews, articles, books, jobs, lucrative contracts, special considerations in legislation, etc. The lies and favors are a cunning blend of whatever it takes to gain supporters. The end justifies the means. Note that the more influence a politician has, the more falsehood they can afford to broadcast, and the greater the amount of favoritism they can plausibly promise and deliver.

The race to the bottom employs a dazzling array of deception strategies. These are usually combined, which increases their power. Here are some of the most popular:

FALSE PROMISE – A false promise is a promise that is made but never delivered, or never delivered fully. False promises are widely used to win the support of segments of the population, such as organized special interest groups, industries, and demographic groups like seniors or immigrants. False promises flow like wine during election season. The next time you see this happening, think of it as proof the race to the bottom exists, and as proof that few politicians can escape the pressure to join the race to the bottom.

FALSE ENEMY – Creating a false enemy works because it evokes the instinctual fight or flight syndrome. The brain simply cannot resist becoming aroused when confronted with a possible enemy.

The two main types of false enemies are *false internal opponents*, such as negative campaigning, the Salem witch trials, and McCarthyism, and *false external opponents*, such as communism and the second Iraq “war.” While communism and Iraq were true problems, both were trumped up enormously to serve the role of a false enemy. False enemies are also known as scapegoats. They can also be used to divert the public’s attention from more important issues. Name-calling is one technique used to create a false enemy, but the biggest is fallacious arguments, better known as lies.

PUSHING THE FEAR HOT BUTTON – When a politician talks about almost everything in terms of terrorism, or communism, or crime, or threats to “national security” or “our way of life,” and so on, that politician is pushing the fear hot button. It is very easy to push. Just use a few of the right trigger words, throw in a dash of plausibility, and the subconsciousness is automatically hoodwinked into a state of fear, or at least into wondering if there is something out there *to* fear. Whether or not an enemy actually *is* out there doesn’t matter—what matters is that we think there *might* be one.

Fear clouds the judgment, making it all the harder to discern whether there really is an enemy out there. Because we cannot be sure, we play it safe and assume there is at least some risk. Since people are risk averse, the ploy works and we become believers. We have been influenced by statements of what *might* be lurking out there. Our fear hot button has been pushed and it worked.

WRONG PRIORITY – Wrong priorities stem from hidden agendas. A **hidden agenda** is a plan or goal a politician must conceal from the public, due to an ulterior motive.

There are many ways a hidden agenda can come about. A politician may support a certain ideology, and so bends everything to support the goals of that ideology. Or he may have accepted donations and/or voter support from special interests, such as corporations, and therefore must promote their agenda. Or perhaps he had to cut a deal.

A politician with a hidden agenda must make the wrong priorities seem like the right ones in order to achieve what's on the hidden agenda. How can he do this? For a corrupt politician such matters are child's play—manipulate the public through false promises, create a false enemy, push the fear hot button hard and often, repeat the same lie over and over until it becomes “the truth,” and so forth.

The low priority that environmental sustainability receives from most governments today is rapidly becoming *the* textbook example of how devastating wrong priorities can be.

The right steady drumbeat of false promises, false enemies, pushing the fear hot button, and wrong priorities creates the ultimate political weapon: lies that work on entire nations. This is why history has given us these gems of dark wisdom:

“Next the statesmen will invent cheap lies, putting the blame upon the nation that is attacked, and every man will be glad of those conscience-soothing falsities, and will diligently study them, and refuse to examine any refutations of them; and thus he will by and by convince himself that the war is just, and will thank God for the better sleep he enjoys after this process of grotesque self-deception.” – Mark Twain, *The Mysterious Stranger*, 1910.

“The whole aim of practical politics is to keep the populace alarmed (and hence clamorous to be led to safety) by menacing it with an endless series of hobgoblins, all of them imaginary.” – H. L. Mencken

“A lie repeated often enough becomes the truth.” – Vladimir Lenin.

“It does not matter how many lies we tell, because once we have won, no one will be able to do anything about it.” – Statement by Dr. Joseph Goebbels to Adolf Hitler, early 1930s, from *The Rise and Fall of the Third Reich*, by William L Shirer.

The Basic Structure of the Dueling Loops

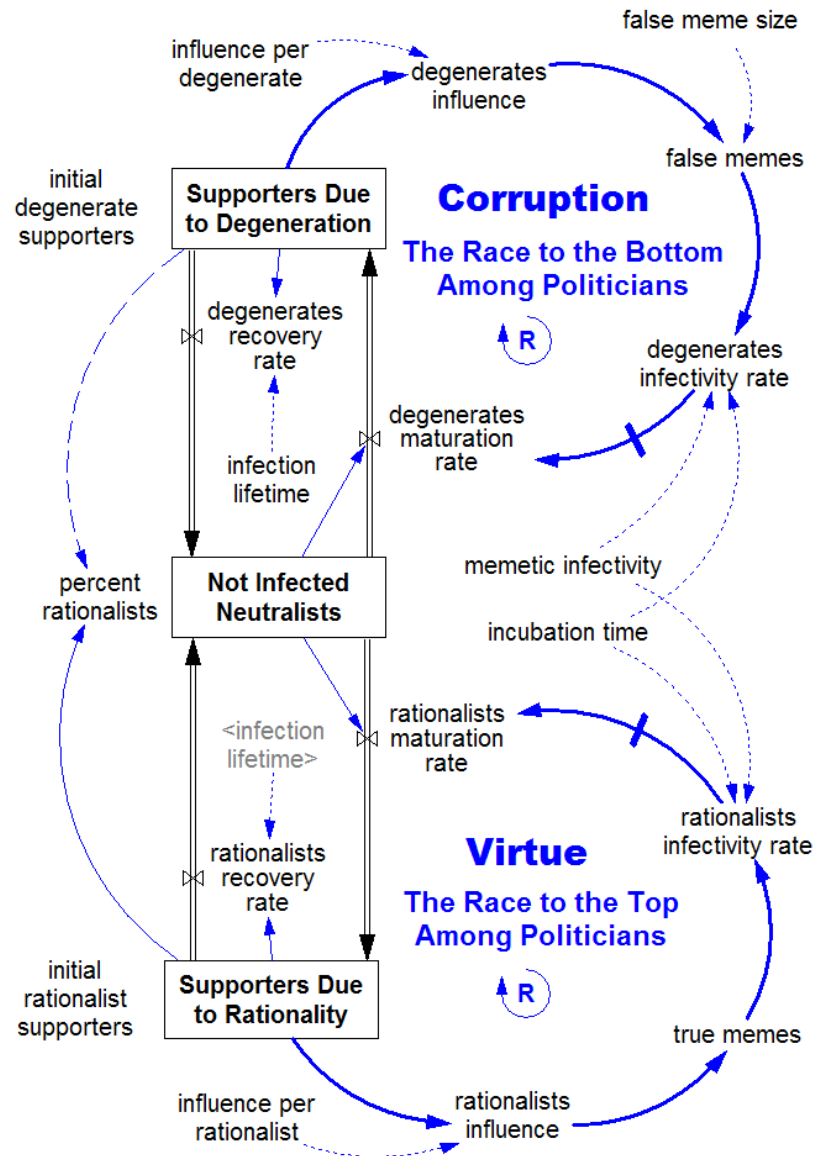


Figure 3. This is the basic structure of the dueling loops of the political powerplace. There are many variations. This structure, combined with agent selfishness, is the fundamental cause behind the behavior of all political systems, both ancient and modern. In particular this structure explains why corruption is what dominates politics, no matter how hard society tries to stamp it out. But once the structure is deeply understood it becomes possible to arrive at a way to eliminate corruption indefinitely. This is required to achieve sustainability of any kind, because **sustainable** is defined as the ability to continue a defined behavior indefinitely.

THE BASIC DUELING LOOPS

Opposing the race to the bottom is the race to the top. The two loops are joined together as shown. Because each loop competes for the same Not Infected Neutralists, they are “dueling loops.”

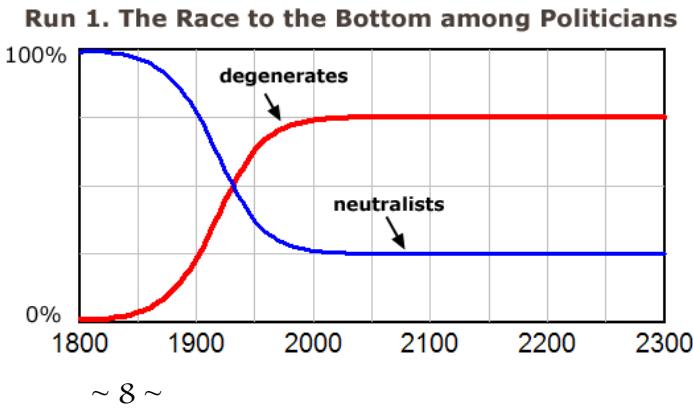
In the race to the top **virtuous** politicians compete for supporters on the basis of the truth (on the model this is called true memes) about what is best for all (how to optimize the common good). No favoritism is used, because those who tell the truth treat everyone equitably. Virtuous politicians can help improve things so that society benefits as a whole, but they cannot promise or give anyone more than their fair share.

The race to the top works in a similar manner to the race to the bottom because the two loops are entirely symmetrical, with one crucial difference: in the race to the top, the size of the truth cannot be inflated. Corrupt politicians can use false meme size to inflate the appeal of what they offer their supporters. But virtuous politicians cannot use falsehood to promise more than they can honestly expect to deliver. Nor can they use favoritism to inflate expectations of how well they can help particular supporters.¹

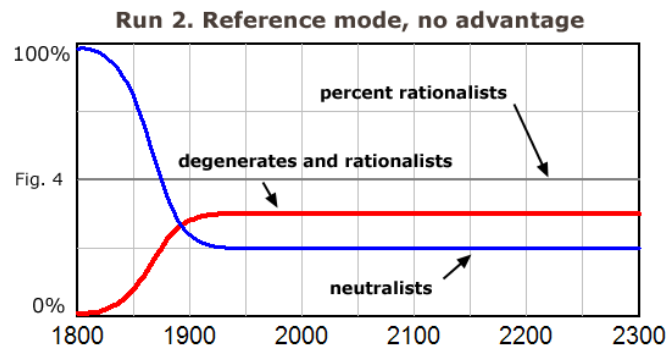
By examining how the basic dueling loops model behaves in a series of simulation runs, we can better understand why the political powerplace works the way it does. The table below lists the first six simulation runs we will examine. The first two variables are the **changeable variables**. By varying the changeable variables from run to run, we can try different scenarios. Each scenario is a logical experiment. The third variable is a **result variable**. It is the outcome of a simulation run, after equilibrium is reached.

Basic Dueling Loops Model Variables	Simulation Runs						Table 1
	1	2	3	4	5	6	
Initial rationalist supporters	0	1	5	1	1	1	
False meme size	1	1	1	1.1	1.3	2	
Percent rationalists	0%	50%	83%	20%	5%	0%	

RUN 1 – This was presented earlier in figure 2. By setting initial rationalist supporters to zero and false meme size to 1, we get the equivalent of the race to the bottom loop and graph that was presented earlier.

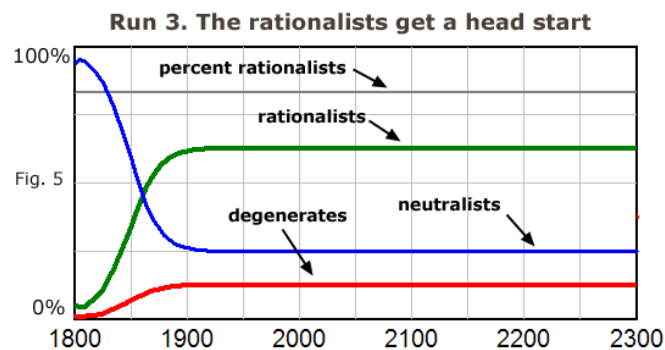


RUN 2 – In run 2 the number of initial rationalist supporters is increased to 1. Now both loops have the same number of initial supporters. Because neither loop has an advantage over the other loop, the result is both loops behave the same. Each attracts the same percentage of supporters.



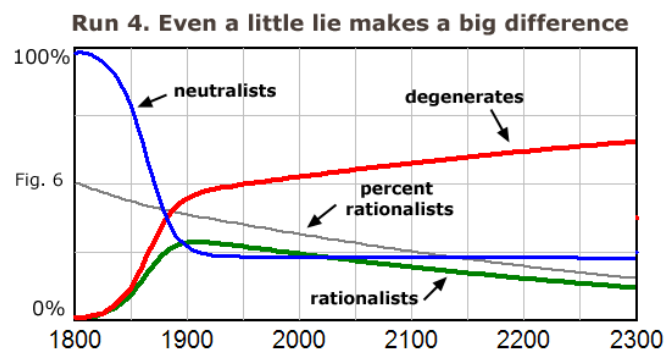
Because this run exhibits the most basic behavior of the dueling loops, without the whistles and bells of giving one side an advantage, it is our reference mode. A **reference mode** is what modelers use to compare all other runs to, because it is the most fundamental run or represents the current system. Notice how in this run the percentage of degenerates and rationalists are always the same, so the red line of the degenerates covers the dark green line of the rationalists, which will be seen in later runs. Percent rationalists is the number of rationalists divided by degenerates plus rationalists. Naturally the higher this percentage is the better. In this run percent rationalists is always 50%.

RUN 3 – This shows what happens if we give one side a head start on their number of supporters. Because we have not changed false meme size, neither size has an inherent advantage. But even a small head start, if all else is equal, can quickly become a large advantage, as the results show.



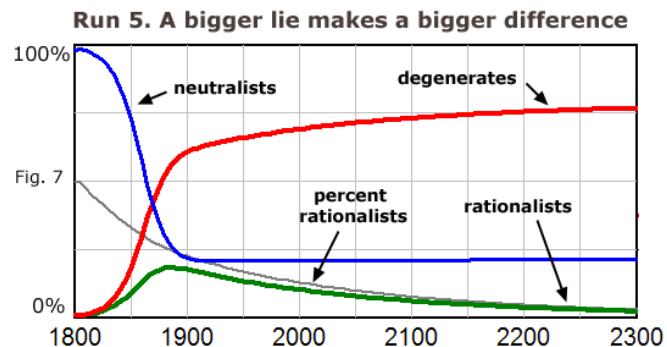
RUN 4 – Now things get interesting. The number of initial rationalist supporters is set back to 1 and false meme size is increased from 1 to 1.1. This is only a tiny bit bigger, by 10%. It would seem that itsy bitsy lies and favors wouldn't make much difference, but no—they make a huge difference over a long period of time. As the run 4 graph shows, the good guys get wiped out. After 500 years they are down to about 20%. After 5,000 years (not shown) they are down to 0.345879 persons, which in the real world would be zero.

But notice how slowly the lines for degenerates and rationalists diverged for the first 50



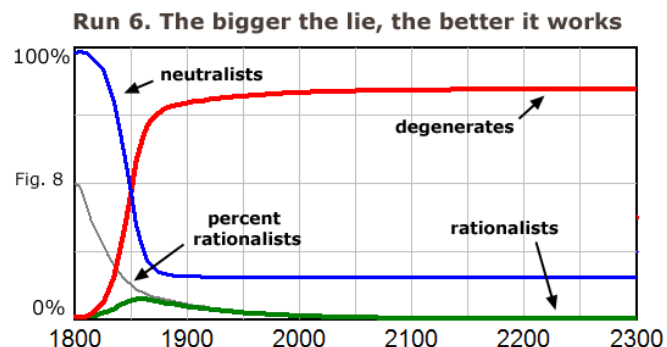
years. What might happen if the bad guys decided to tell bigger lies and give out bigger favors?

RUN 5 – If false meme size is increased from 1.1 to 1.3, system behavior changes dramatically. It only takes about 30 years for the degenerates to pull away from the rationalists. Now the degenerate and rationalist lines flatten out after only 500 years, instead of the 5,000 years it took in run 4. The end result is the same. The lesson is that the bigger the lie, the faster a corrupt politician can take over a political system. I wonder if that explains anything we might be seeing in politics today, such as in the United States?



RUN 6 – Finally we see what happens if a corrupt politician decides to tell real whoppers. False meme size has increased to 2. In other words, every false promise, every false enemy, and so on is now twice as big as they really are.

The results are no surprise. Now the system responds so fast the good guys never even make much of an impact on politics. They are smothered so fast by such big lies that the graph line for rationalists is starting to look like a pancake. Now, after only 500 years, there are 0% rationalists left in the system. They have been exterminated.



There is a limit to how big a lie can grow before it starts to make detection easy. In Figure 9 we will add the effect of size of lie on detection variable to the model, which will impose diminishing returns on the size of a lie.

This is the basic structure of the dueling loops of the political powerplace. The two loops are locked in a perpetual duel for the same Not Infected Neutralists. In addition, each politician has his or her own loop, and battles against other politicians for the same supporters. It is these many loops and the basic dueling loops structure that forms the basic structure of the modern political powerplace. The outstanding feature of this structure is:

THE INHERENT ADVANTAGE OF THE RACE TO THE BOTTOM

Because the size of falsehood and favoritism can be inflated, and the truth cannot, the race to the bottom has an inherent structural advantage over the race to the top. This advantage remains hidden from all but the most analytical eye.

A politician can tell a bigger lie, like budget deficits don't matter. But they cannot tell a bigger truth, such as I can balance the budget twice as well as my opponent, because once a budget is balanced, it cannot be balanced any better. From a mathematical perspective, the size (and hence the appeal) of a falsehood can be inflated by saying that $2 + 2 = 5$, or 7, or even 27, but the size of the truth can never be inflated by saying anything more than $2 + 2 = 4$.

Because the size of falsehood and favoritism can be inflated and the truth cannot, corrupt politicians can attract more supporters for the same amount of effort. A corrupt politician can promise more, evoke false enemies more, push the fear hot button more, pursue wrong priorities more, and use more favoritism than a virtuous politician can. *The result is the race to the bottom is normally the dominant loop.* Thus the reason that "Power corrupts, and absolute power corrupts absolutely" (Lord Acton, 1887) is not so much that power itself corrupts, but that the surest means to power requires corruption.

Due to lack of an in-depth analysis of the fundamental causes of the social side of the problem, problem solvers have long been intuitively attracted to the low leverage point of pushing on "more of the truth." On the model this is the true memes node. The truth is discovered by research on technical ways to live more sustainably, such as population control, alternatives to fossil fuels, and reduce, reuse, and recycle. The truth is then spread by scientific reports, popular articles, environmental magazines, lobbying, pilot projects, lawsuits to enforce the legal truth, demonstrations to shock the public into seeing the real truth, and so on. This works on problems with low solution adoption resistance (low change resistance), such as local pollution problems. But it fails on those with high change resistance, like climate change, because environmentalists simply do not have the force (wealth, numbers, and influence) necessary to make pushing on this point a viable solution.

Because of its overwhelming advantage, the race to the bottom is the surest way for a politician to *rise to power*, to *increase* his power, and to *stay in power*. But this is a Faustian bargain, because once a politician begins to use corruption to win, he joins an anything goes, the-end-justifies-the-means race to the bottom against other corrupt politicians. He can only run faster and keep winning the race by increasing his corruption. This is why the race to the bottom almost invariably runs to excess, and causes its own demise and collapse.

This collapse ends a cycle as old as the first two politicians. A cycle ends when corruption becomes so extreme and obvious that the people rise up, throw the bums out, and become much harder to deceive for awhile. But as good times return, people become lax, and another cycle begins. These cycles never end, because presently

there is no mechanism in the human system to keep ability to detect deception permanently high.

The dueling loops structure offers a clear explanation of why environmentalists are facing such a hostile political climate. This strong opposition occurs because a dominant race to the bottom causes corrupt politicians to work mostly for the selfish good of degenerate supporters, instead of working for the common good of the people. In other words:

THE RACE TO THE BOTTOM IS EASILY EXPLOITED BY SPECIAL INTERESTS

Exploitation is the use of others to increase your own competitive advantage, at the cost of theirs. Because this is so obviously self-destructive to those being exploited, deception is required to pull it off. (We are considering only voluntary exploitation.)

The race to the bottom provides the perfect mechanism for political exploitation. Each politician has his or her own loop. There are also hierarchies of loops, since a politician's supporters can be other politicians. At the top of each hierarchy is the top politician, such as a president, political strategist, or party. Whoever is at the top has tremendous leverage. *Thus the race to the bottom hierarchy greatly amplifies the power of the exploiter.*

In stark contrast, the race to the top cannot be exploited. Unseemly rewards cannot flow to a truth telling politician without everyone knowing about it, because part of telling the truth is keeping no secrets and not committing the "sin of omission," a type of lie. It also cannot be exploited by supporters or outsiders with bribes or favoritism, because truth telling politicians would say no and if necessary report them. If they didn't, they would lose supporters because they would now be committing falsehood.

Basically the race to the top is not exploitable because exploitation requires unjustified support, which is what the race to the bottom thrives on. But in the race to the top, all support is justified because it is based on the truth and the equitable distribution of the benefits of social cooperation.

The incentive to exploit occurs when a special interest group has interests that conflict with those of society as a whole. Common examples are religious fundamentalists, the rich, the military, and large corporations. The latter two make up the infamous military industrial complex.

A corrupt politician, by accepting donations (legal bribes) and votes in return for favoritism, becomes beholden to the special interest groups involved. If a special interest is powerful enough, it can control and exploit a political system by clever use of the race to the bottom. This is exactly what is happening today. The global political system is by and large being exploited by:

THE NEW DOMINANT LIFE FORM

Let's define a **life form** as any independent agent that follows the three fundamental requirements of evolution: replication, mutation, and survival of the fittest. Building on our earlier definition of a meme, life forms can be genetic or memetic.

Here's a question: What life form has the ability to replicate instantly with almost no expenditure of energy, can mutate during replication or at any time thereafter, and, when it has failed in the battle of survival of the fittest, sells little pieces of itself to its competitors in order to minimize its own pain of death? These are fantastic powers no human could hope to have. But what if we go further, and ask what life form has the miraculous power of being in many places at the same time, has an infinite life span, and can cleave off chunks of itself and have them instantly come alive? That would make it a formidable competitor indeed, one that could run rings around any other plant or animal. Darwin would be astounded.

But there's more: What life form totally dominates mankind, by controlling most jobs in developed countries, by determining the path of nearly all of new technology, products, and services, by controlling elections and political decisions more than any other life form, and by defining the very evolution of culture to its advantage through demand advertising, ownership of the media, and new product design? If that is not enough, what life form controls the billions of boxes in our homes that provide us with most of our "news," and most of our new knowledge once we have finished school, while at the same time subconsciously indoctrinating us to be high volume, complacent consumers? To top it off, what life form is spreading exponentially from industrialized countries to the rest of the world, and will soon dominate them all? The answer is obvious. It is the modern corporation, which is the New Dominant Life Form.

Thus the dominant life form on Earth is no longer genetic Homo sapiens. Instead, it is the memetic modern corporation and its allies. In addition to economic and cultural dominance, the corporate life form has achieved political dominance by successful exploitation of the race to the bottom. It can thus endlessly thwart or slow down all efforts to significantly change the human system to environmental sustainability, and just as endlessly continue to maximize Gross World Product growth so as to achieve its goal. Globalization is mainly the deliberate spread of the New Dominant Life Form into new economic niches, cloaked in the fallacious but appealing premise that free market trade, as presently practiced, is better for all.

The goal of an agent determines its behavior. The goal of most corporations is to maximize the net present value of profits. The goal of most people, once past the survival and security stage, is to maximize quality of life for themselves and their descendants.

These goals are mutually exclusive. As a result, as things get better for the New Dominant Life Form they get worse for the previously dominant life form: *Homo sapiens*. For example, as Gross World Product continues to rise, sales and profits soar to unprecedented heights. However, so does pollution and natural resource depletion.

While the consequences of these effects are delayed, it is only a matter of time before the quality of life for *Homo sapiens* begins to fall.

Please note this is not an indictment of all corporations and their managers. Most are doing the best they can, and are basically good. Each agent, from its own perspective, is behaving rationally. *It is the life form as a whole that has the emergent property of behaving unsustainably.*²

This is the real enemy environmentalists are battling. The current Bush administration, as well as others before it and around the world who oppose sustainability, are mere proxies for the real opponent: the modern corporation and its allies. Its allies include top corporate management, stockholders, the rich, the military, and politicians, plus various large special interest groups as expediency requires, such as the religious right.

It is a paradox why *Homo sapiens* would create an entity that is more powerful than itself and has a mutually exclusive goal. Such a creation is guaranteed to cause its creator great harm, if not eventual extinction. But it is really not a paradox at all—it is an experiment gone awry. So awry, in fact, that it is time to end the experiment by redesigning that creation....

THE HEART OF THE ANALYSIS: THE ROOT CAUSE

We now have enough pieces of the puzzle to draw an important conclusion: The dueling loops, their cyclic nature, the inherent advantage of the race to the bottom, the presence of the New Dominant Life Form, and its successful exploitation of the race to the bottom **are the structural root cause** of most of the stiff, prolonged resistance to adopting a solution to the environmental sustainability problem. Civilization is presently stuck in the dominant race to the bottom part of the cycle. *Our challenge is to cause this cycle to end as soon as possible, and then to prevent it from ever starting again.* If we can do that civilization will not only enter the Age of Transition to Sustainability. It will also enter an entirely new mode: a permanent race to the top among politicians, along with all that has to offer, but has never been achieved.

This may seem even more ambitious than the last great political mode change, which was the rise of democratic forms of government in the 18th century. There is, however, good cause for rational hope, because:

THERE IS A HIGH LEVERAGE POINT THAT HAS NOT YET BEEN TRIED

We have extremely good news. There is a very promising high leverage point in the human system that has not yet been tried. It is general ability to detect political deception, as shown on the revised model on page 16. Pushing there appears to give problem solvers the greatest possible chance of solving the social side of the problem.

Actually the model identifies not one but two high leverage points. Both need their present values raised to solve the problem. But as we will show in another series of simulation runs, it is the key high leverage point of *ability to detect deception* that makes the biggest difference.

The central purpose of this paper is to convey the importance of two propositions: that the dueling loops of the political powerplace explain why environmentalists are meeting such stiff resistance, and what the high leverage points of that structure appear to be. If we can do that, then it will not be long before readers of this paper explore these propositions for themselves, launch their own analyses, and begin to push on the correct high leverage points. Those points may or may not be the ones presented here, because this analysis is merely a first iteration.

Our deeper purpose is a third proposition: *Environmental activists, academics, politicians, and agencies are failing to solve the global environmental sustainability problem because they are pushing on low leverage points instead of high leverage points.* They are doing this because they are using an ad hoc, instinctual problem solving process instead of a formal analytical one, particularly on the problem as a global whole. If environmentalists would switch to a formal analytical process tailored to the problem, as science did back in the 17th century when it adopted the Scientific Method, they would be able to correctly analyze even difficult problems and find the high leverage points necessary to solve them. Only then will the impossible become the possible.

A formal analysis tailored to the problem does not simply mean find good people, give them the budget they need, apply the Scientific Method, and expect the cows to come home tomorrow. *It means design a custom process that fits the specific problem.* An example of such a process is the System Improvement Process, which is described at Thwink.org. This process was designed from scratch to solve complex social system problems. It works by breaking the total problem down into three sub-problems, each of which is much easier to solve. Its key advantage is recognition of the social side of complex social system problems.

However nowhere in environmental activism, academia, political decision making, governmental agencies, or even international bodies have I been able find a group following a process specifically designed to solve the overall global environmental sustainability problem. This includes the United Nations Environmental Program, the European Union, the Organization for Economic Cooperation and Development, the US EPA, numerous books and papers, and countless environmental NGOs.

What might happen if there was such a group? What if they proved a formal, analytical process tailored to achieving their mission was a better way, and soon there were a hundred such organizations? What if that in turn lead to the majority of environmental organizations in the world using an appropriate process, either for the complete *problematique* or for the portion of it they were working on?

But we digress. Let's return to the model at hand, and examine the behavior of the high leverage point that has never been tried.

The Two High Leverage Points of the Dueling Loops

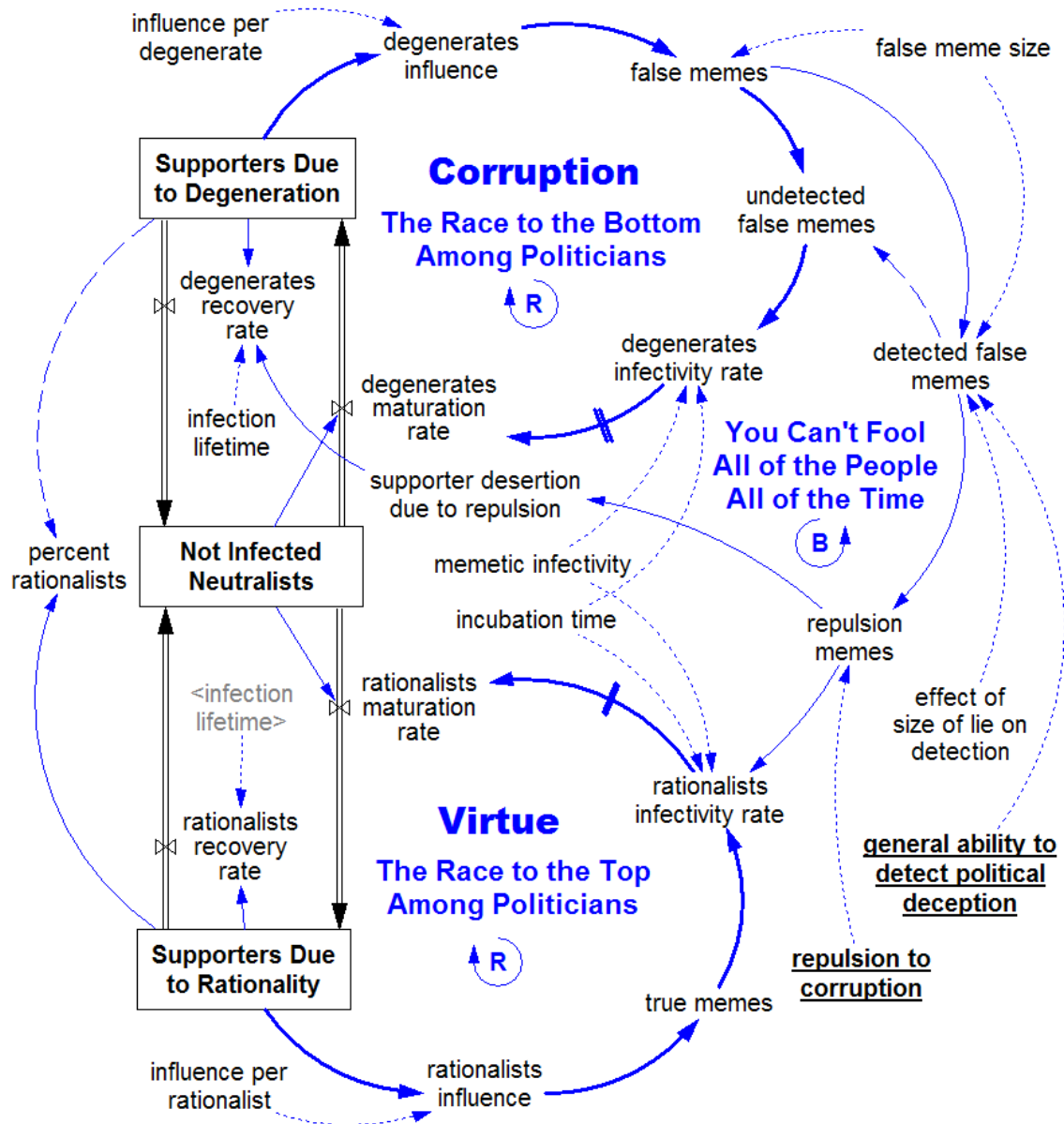


Figure 9. The two high leverage points (HLPs) are underlined. The one making the most difference by far is general ability to detect political deception. If the model is reasonably correct then pushing there can solve the social side of the global environmental sustainability problem. Currently nearly all effort is directed toward the more intuitively attractive low leverage point of "more of the truth," which is the true memes point. Pushing there fails, because environmentalists simply do not have enough force to *directly* overcome the inherent advantage of the race to the bottom. They can only overcome it *indirectly* by pushing elsewhere on high leverage points.

On the model a solid arrow indicates a direct relationship. The two dashed arrows show an inverse relationship. A dotted arrow is a constant or a lookup table function.

Currently general ability to detect political deception is low. The lower it is the lower detected false memes are. The lower that is, the higher undetected false memes are and the lower repulsion memes are. This causes more degenerates and fewer rationalists, which is bad news.

Currently repulsion to corruption is also low. The lower it is, the lower the rationalists infectivity rate and the lower supporter desertion due to repulsion. This is because repulsion to corruption times detected false memes equals repulsion memes. This makes sense, because detected corruption is a good reason to decide to support virtuous politicians and to desert corrupt ones.

For an actual system reaction to deception detection to occur, two steps must take place. The deception must be detected, which is handled by general ability to detect political deception times false memes equals detected false memes. Then those detected false memes must cause people to be repulsed enough by the corruption to either defect from the degenerates, which is what the supporter desertion due to repulsion variable does, or to become rationalists, which is handled by adding repulsion memes to true memes to calculate the rationalists infectivity rate. In addition to this, false memes minus detected false memes equals undetected false memes, which reduces degenerate infectivity.

Let's summarize how the ***You Can't Fool All of the People All of the Time*** loop works, focusing on the higher leverage point. Currently the loop is weak, and thus might be more appropriately named ***You Can Fool Most of the People Most of the Time***. Low ability to detect deception and the fact that the size of falsehood and corruption can be inflated but the truth cannot combine to cause more supporters to be attracted to the race to the bottom. Thus if ability to detect deception is low, corruption works like a charm, because most false memes flow through the system unimpeded. This causes undetected false memes to be high and detected false memes to be low, which strongly favors the race to the bottom.

But if problem solvers can raise ability to detect deception to a high level, most false memes flow to detected false memes. This greatly decreases undetected false memes, which destroys the power of the race to the bottom. At the same time this increases repulsion memes, which increases the rationalists infectivity rate and increases the degenerates recovery rate due to supporter desertion due to repulsion. The result is corruption doesn't work anymore, which causes the race to the bottom to collapse as most people suddenly see the real truth and flee for their lives to the stock of Supporters Due to Rationality. This is precisely what happens when massive amounts of corruption are suddenly exposed.

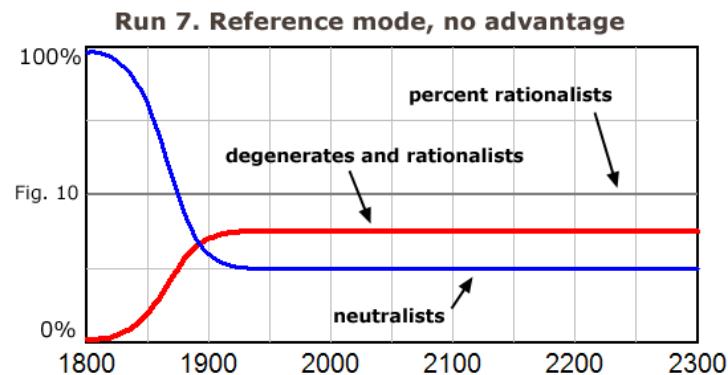
It is the effect of influencing so much so strongly that makes general ability to detect political deception such a potent high leverage point.

Allow me to make a personal observation. The dueling loops structure is generic. It applies to any problem, not just environmental sustainability. *The successful exploitation of the race to the bottom by the modern corporation and its allies is the fundamental reason progressive activists are encountering such strong resistance in achieving their objectives.* If progressive philosophy is defined as promotion of the objective truth for the good of all, then progressives (no matter what party they belong to) are rationalists at heart, and thus eschew falsehood and favoritism in its many forms. Progressives may not realize it, but their central strategy is the high road of winning the race to the top.

Next let's familiarize ourselves with how pushing on the two high leverage points affects model behavior. The table below lists the simulation runs needed to do this. In all these runs, the number of initial degenerate and rationalist supporters is 1.

High Leverage Points Model Variables	Simulation Runs							
	7	8	9	10	11	12	13	14
False meme size	1	1	4.8	4.8	2.4	2.4	3.8	4.7
Ability to detect deception	0%	20%	20%	20%	20%	20%	60%	80%
Repulsion to corruption	NA	0%	0%	20%	20%	80%	20%	20%
Percent rationalists	50%	100%	0%	41%	20%	57%	69%	100%

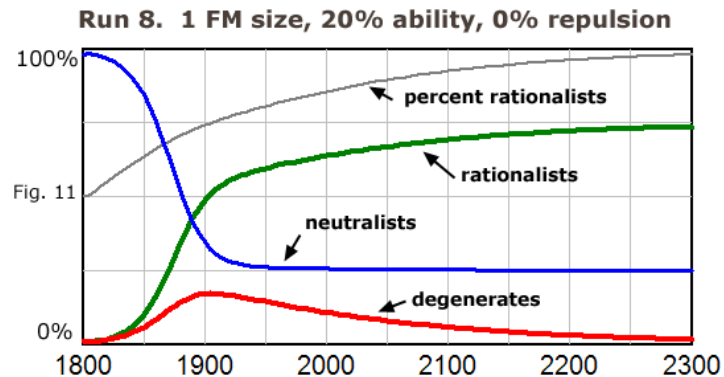
RUN 7 – This is the same as the reference mode (run 2) presented earlier. The purpose of this run is to test that the revised model has the same foundational behavior. It also serves as a good starting point for further scenarios.



RUN 8 – In the United States and many other countries, the general ability to detect political deception is low, somewhere around 20% or 30%. This is obvious because of the large amount of political corruption that goes undetected. (A caveat is that recently, in late 2005 in the US, this ability appears to be on the rise due to an excess of corruption that has become intolerable.) Let's try raising this high leverage point from 0% to 20% and see what happens.

Wow! Great results! Finally it is the bad guys whose graph line is flattened like a pancake. Percent rationalists rises to 75% in 100 years and levels out at 100%. This is a dream scenario. All we've got to do is figure out how to make it happen.

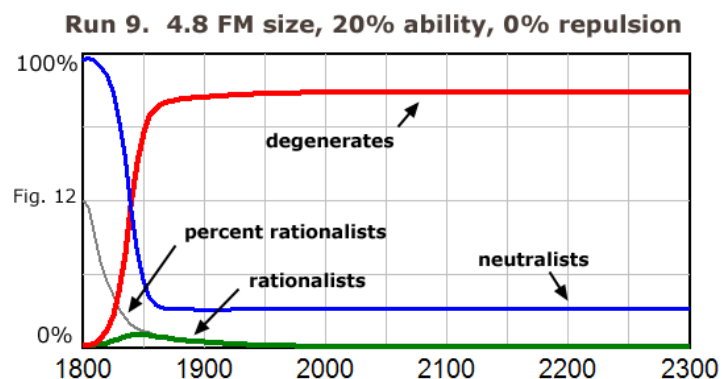
Unfortunately that can't be done, because this scenario is unrealistic. There is no way corrupt politicians are going to sit by and stick to a false meme size of 1, when they know full well, from at least 200,000 years of experience, that corruption works. So let's fix that in the next run.



RUN 9 – In this run we change false meme size from 1 to 4.8, which is the optimum that effect of size of lie on detection and supporter desertion due to repulsion will let the bad guys get away with.

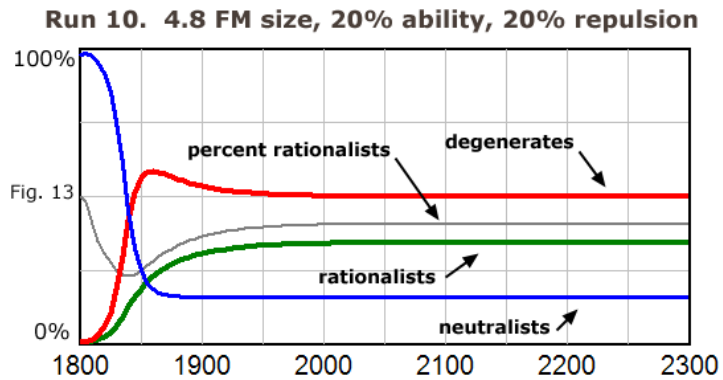
The bad guys may be corrupt, but they are not dumb. They are usually plenty clever enough to adjust the size of lies and favoritism to be close to the right amount: not too big, and not too small. Those corrupt politicians that cannot do this will be selected out by the iron hand of evolution's most merciless law: survival of the fittest.

The graph tells the sad story. Now it is the good guys are as flat as a pancake after a *Tyrannosaurus Conservatex* stepped on it. In this scenario the rationalists have lost the game so soon and so badly it's as if they had hardly any influence at all on the political system. But once again, is this a realistic simulation run? Not quite, because repulsion is still 0%, which is unrealistically low. Let's fix that on the next run and see what happens.



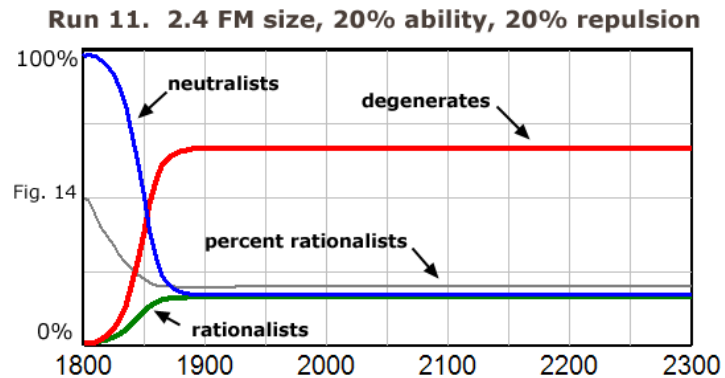
RUN 10 – Now we push on the second high leverage point, repulsion to corruption, raising it from 0% to 20%. Because both high leverage points are now being pushed, things should start looking more favorable. If they don't, our understanding of the model is faulty.

The results do look better, but they are still not good enough. Percent rationalists tops out at 41%, which is well below what is needed for a political system to run itself well. We've got to do better.



RUN 11 – The smarter the agent, the faster and better it adapts to changing circumstances. We can only assume that corrupt politicians will adapt their strategy to the new circumstances of run 10. Experimentation with the model shows that the optimum false meme size for a 20% ability to detect deception and a 20% repulsion factor is 2.4. So in run 11 let's change false meme size from 4.8 to 2.4.

As the graph shows, this strategy has a substantially better outcome. Percent rationalists levels off at 20% instead of the 41% of run 10. In other words, the degenerates have increased their percentage from 59% to 80%. Not bad for such a simple change. What's interesting is they did it by *decreasing* the size of lies and favoritism, which means *less* corruption got them *more* supporters.



The point is that false meme size is not fixed. It is fluid and, like so many agent strategies in complex social systems, changes as the situation demands.

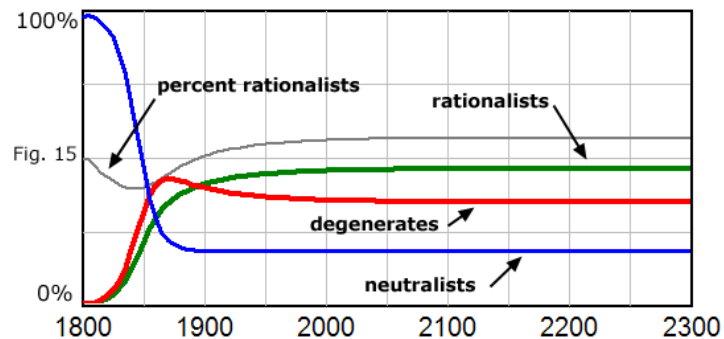
RUN 12 – Next let's see which of the two high leverage points gives problem solvers the most leverage. First let's raise repulsion to corruption from low to high, which is from 20% to 80%. Then we experiment with the running model to determine the optimum false meme size is for this competitive situation. It turns out to be 2. Will the result be good enough for the good guys to win or not?

Actually the model is now so complex I found it hard to reliably predict the outcome of this run. But that's one of the many benefits of simulation modeling: Once you have expressed your analysis as a dynamic structure, the software takes it from there and tells you how that structure will behave in any situation. And unlike my poor overworked cranial lobes, simulation software never makes a mistake.

The results show that even 80% is still not good enough. The forces of good and evil are still so evenly matched that they would be totally unable to deal cooperatively and proactively with difficult problems like the global environmental sustainability problem, because they would be too busy battling each other. The degenerates would also be engaging in promoting too many wrong priorities for the right priority of environmental sustainability to emerge as a top priority.

Time for a sanity check. Does this result make sense? Yes, because ability to detect deception is still low, at 20%. So let's roll back repulsion to a more realistic value and then see what would happen if we raised ability to detect deception.

Run 12. 2 FM size, 20% ability, 80% repulsion



RUN 13 – First we must estimate a reasonable value for repulsion to corruption. Later we hope to measure it in the field, but for now we must rely on an estimate.

There are five ballpark values repulsion to corruption could be: zero, low, medium, high, and 100%. Zero and 100% are so extreme as to be unrealistic, so we will rule them out.

I feel that presently repulsion to corruption is low. When the average citizen hears about detected corruption they do very little. They do not take action. Instead, the incident is written off as “politics as usual.” Only if corruption is extreme and prolonged do they take effective action. Even when Election Day comes, it is not corruption that voters consider the most. It is numerous other factors, like looks, charisma, sound bites that stick in the mind, and most importantly, where the candidate stands on issues that are important to each voter. These issues rarely center on corruption, unless corruption has been prolonged and extreme.

Let's not go too low, like 10%. A value of 20% seems reasonable. Much higher would start to get into a medium level (40% to 60%), which does not make sense. People do not act on half the corruption they hear about. It is much less.

Also let's start to raise ability to detect deception. In runs 8 to 12 it was 20%. Let's raise it to 60%. Let's continue to assume corrupt politicians will adapt to the new situation and change to the optimum strategy of 3.8 for false meme size. The results are shown.

This run shows that to adequately counter a false meme size of 3.8, ability to detect deception must be at least 60% and repulsion at least 20%. Percent rationalists is now up to 69%, which is probably about the bare minimum for a government to begin to put aside political squabbling and begin to

work on its backlog of problems. But 69% is still not high enough for nations to focus efficiently on highly demanding problems, because solving these types of problems requires a nation's full attention and its complete cooperation with other nations.

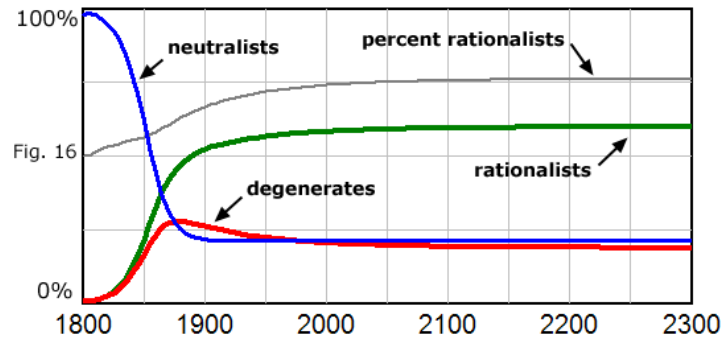
RUN 14 – To see if we can achieve a high enough percent rationalists to solve the problem, let's raise ability to detect deception from 60% to 80%. Again we assume adaptation and change false memes size to 4.7.

The results show that at last we have the behavior in the model we would like to see in the real world, because percent rationalists has risen to a blissful 100%. The opposition is eliminated and virtuous politicians can now focus on society's proper priorities, at last. *If the model is correct*, then raising the general ability to detect political deception from low to high is all it takes to make the race to the top go dominant and thus solve the social side of the problem.

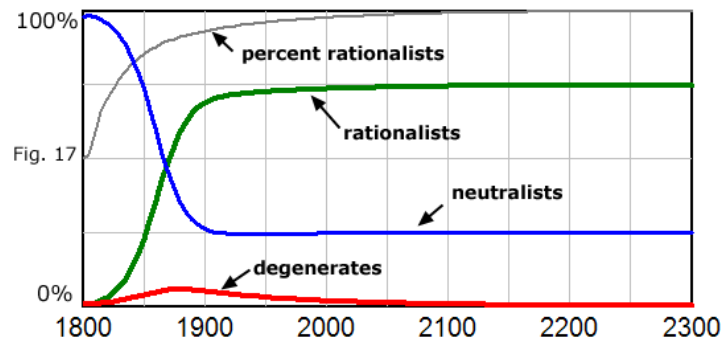
Notice how this run was able to raise percent rationalists from 41% to 100% (a 59% rise) by raising ability to detect deception from 20% to 80%, while run 12 only raised percent rationalists from 41% to 57% (a 16% rise) by raising repulsion from 20% to 80%. Calculating the leverage, $59\% / 16\% = 3.7$. Thus in these fairly realistic scenarios ability to detect deception has 370% more leverage than repulsion to corruption has.

What about leaving ability to detect deception at 60% and raising repulsion to corruption? Would that solve the problem? No. Experimentation with the model shows that increasing repulsion to 80% increases percent rationalists to 94%, and increasing it to 100% only increases percent rationalists to 95%. It seems that in-

Run 13. 3.8 FM size, 60% ability, 20% repulsion



Run 14. 4.7 FM size, 80% ability, 20% repulsion



creasing repulsion cannot eliminate the last few degenerates. However it does appear that the best overall solution is to raise both high leverage points some: repulsion a little bit, and ability to detect deception a lot.

Now for the important question: *Is the model correct?* No one knows, because it has not yet been subjected to the rigors of experimental proof and field calibration. But I do believe that it contains the fundamental brushstrokes explaining why solution adoption resistance is so high. At the very least the model should be able to serve as the starting point for a larger project that would go much further than I have been able to go by myself.

Next we need to take up the notion that the dueling loops are cyclic. However, let's first pause for:

A WORD OF CAUTION

At Thwink.org, as well as in this paper, we think like scientists. Every assertion we make is a hypothesis that could be overturned tomorrow. The pages you are reading contain many novel hypotheses. While these seem to have withstood the test of logical proof, using a number of analytical tools, few have undergone the acid test of real world experimentation. No one knows how many will survive. But rather than couch every assertion with a "maybe," a "this suggests," or a "probably," and so on, we have elected to only occasionally stress that all the conclusions in the paper are merely examples and pointers to a new way of thwinking. None should be interpreted as *the* analysis or *the* solution.

THE CYCLIC BEHAVIOR OF THE DUELING LOOPS

Up until now the model has ignored consideration of what it is that causes a society to want to raise its general ability to detect political deception and/or repulsion to corruption. To raise the values for these two variables in our simulation runs, all we had to do was reach into the model and change them. That is not how it happens in the real world. How then do societies adjust these values?

My hypothesis is that societies reactively change these values when they see the clear and present need to change them. This need appears when a prolonged excess of corruption occurs. Because there is no formal reliable mechanism to keep the values of these two variables permanently high, they tend to fluctuate as the decades pass. Another way to say this is societies have a short organizational memory on what the values of these two variables should be.

Reactively changing these values causes an endless cycle. This cycle was briefly described earlier as: A cycle ends when corruption becomes so extreme and obvious that the people rise up, throw the bums out, and become much harder to deceive for awhile. But as good times return, people become lax, and another cycle begins. These cycles never end, because presently there is no mechanism in the human system to keep ability to detect deception permanently high.

The minimum conditions required for the dueling loops to be cyclic appear to be:

1. The natural tendency for general ability to detect political deception and repulsion to corruption to be low.
2. The existence of critical points that are automatically activated when corruption gets bad enough. Once a critical point is activated, society invests in raising general ability to detect political deception and/or repulsion to corruption.
3. The critical point is deactivated once corruption falls low enough. This is because there is no permanent mechanism to keep these variables high enough to prevent corruption. (Maxims like "The price of democracy is eternal vigilance" intuitively recognize the need for a permanent mechanism, but even 1,000 such maxims are not enough. Something more is needed.)
4. The presence of delays in raising and lowering the two variables, and in changing supporters of one type into the other.

For the remaining runs the previous model has been revised to incorporate these minimum conditions, by renaming the key high leverage point to be Ability to Detect Deception and making it a stock instead of a variable. (It is traditional to capitalize the names of stocks, due to their central importance in stock and flow models.) The subsystem shown was then built around this stock to give it a realistic critical point

The Critical Point Reaction Subsystem

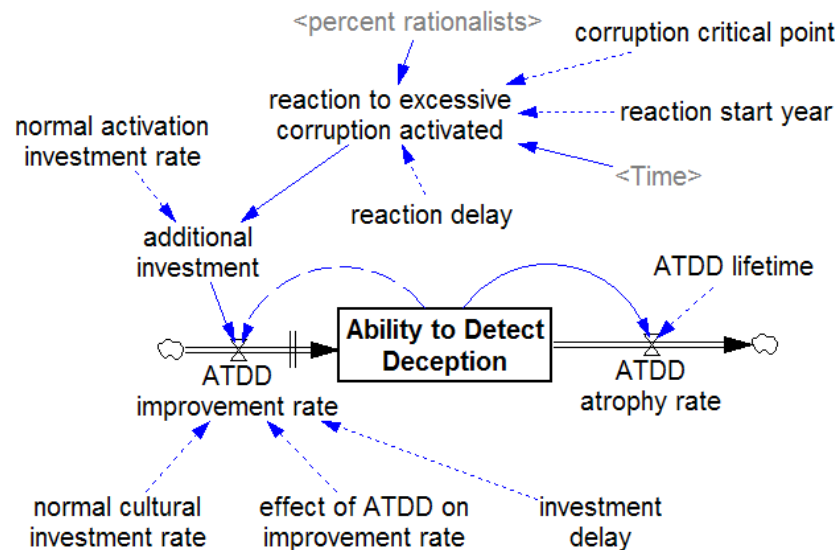


Figure 18. This simple subsystem imitates how society reacts when corruption rises above an unwritten, culturally defined critical point. This reaction is part of a cycle that never ends, because presently there is no formal, enduring mechanism in governments to keep Ability to Detect Deception permanently high.

and change delay.

The critical point reaction occurs when corruption, as measured by percent rationalists, falls below a certain arbitrary cultural corruption critical point.

Here's how a corruption cycle works: Once the critical point is reached a very common complex social system reaction occurs. The reaction to excessive corruption activated variable goes from false to true, after a reaction delay of 5 years. This causes additional investment to be added to the normal cultural investment rate, which increases a society's investment in raising Ability to Detect Deception, such as by launching investigations, publishing information on who is corrupt, prosecuting corrupt officials, and changing the processes of its governmental institutions to be more corruption proof. This takes time, as represented by the investment delay of 5 years and by the way it takes many years to fill the stock up to the high level needed to detect most corruption.

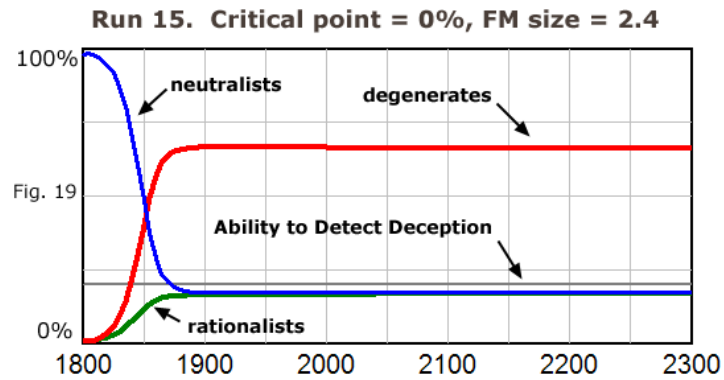
As the stock of Ability to Detect Deception investments accumulates, more and more false memes are detected. Once the stock rises high enough, so much falsehood and favoritism is detected that percent rationalists rises so high that the corruption critical point is no longer exceeded. This causes reaction to excessive corruption activated to change back to false, which causes additional investment to change back to zero, which causes the stock of Ability to Detect Deception to start falling. It continues to fall until it goes so low that another critical point reaction is triggered, and the cycle starts over again.

Below is the table of simulation runs needed to illustrate the dynamic behavior of the critical point model. In all runs repulsion to corruption is 20%. In a real solution it probably needs to be increased a bit, but here we leave it alone for simplicity.

Critical Point Model Variables	Simulation Runs							
	15	16	17	18	19	20	21	22
Corruption critical point	0%	35%	35%	50%	50%	70%	95%	100%
False meme size	2.4	2.4	4.7	4.7	5.6	4	4	4.7
Percent rationalists	20%	Very cyclic	40%	Less cyclic	55%	A little cyclic	Barely cyclic	100%

RUN 15 – This run has no critical point reaction since the corruption critical point equals 0%. Thus this run's behavior is identical to run 11 because additional investment has not yet been triggered.

The subsystem has a normal cultural investment rate that keeps Ability to Detect Deception at 20% when additional investment is zero. Run 15 is the reference mode for the critical point model. In the graph percent rationalists has been replaced by Ability to Detect Deception, which in this run is a constant 20%.

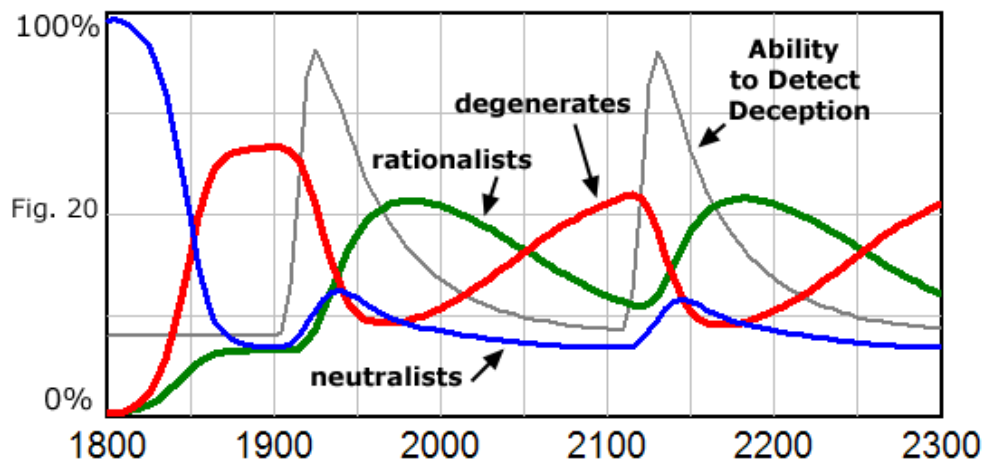


It takes this run only a hundred years to reach steady state equilibrium. To show the cyclic nature of the dueling loops in later runs, the reaction start year is set to 1900. Starting the reaction then instead of in 2000 (which would be about now, and make the modeling experience a little more true to life) gives us more cyclic activity to look at, so that we can more clearly understand the model and its implications.

RUN 16 – In this run the critical point is changed from 0% to 35%, which means the critical point reaction will take place whenever percent rationalists dips below 35%. Since in the reaction start year of 1900 percent rationalists equals 20%, the critical point reaction starts then.

The simulation results show such insightful social system behavior that we have enlarged the graph for this run, so that the details may be more easily seen.

Run 16. Critical point = 35%, FM size = 2.4



The graph shows the cycles are about 200 years long. This is much longer than the corruption cycles (really exploitation cycles) we see today. Thus it is more representative of the deeper cycles that occur, such as those due to changes in styles of government, which are a reaction to very deep social system drivers like class oppression by a landed aristocracy or a hereditary line of rulers. If the four delays in the model are reduced to low levels, cycle length falls to about 75 years, which is closer to what we see in cyclic political party dominance or exploitation by life forms or special interest groups like the modern corporation, due to corruption and other related factors that tend to obscure the fact that exploitation of the race to the bottom is the central driver of these cycles. (75 years requires investment delay = 1 year instead of 5, reaction delay = 1 year instead of 5, incubation time = 1 year instead of 10, and infection lifetime = 5 years instead of 20.)

For example, the last time the modern corporation was ruthlessly dominant in the US was in the late 19th century. The cycle was ended with a backlash against the oppressive power of corporations that led to passage of legislation like the Sherman Anti-Trust Act of 1890. But now corporations are overly dominant again, due to successful exploitation of the race to the bottom.

The important thing to realize is that the natural tendency of the dueling loops is to be cyclic. The length of the cycles varies greatly, depending on a host of factors, only a few of which are incorporated in the model. Because there are many corrupt politicians and special interest groups trying to exploit the race to the bottom, there are many cycles underway at the same time. A political system will be most dominated by whichever cycle(s) are currently dominant and by how strong and clever the various exploiters are.

Let's walk through a cycle and explain what's happening, both in the model and the real world it attempts to represent.

A cycle begins when percent rationalists falls below the corruption critical point. Then, after a reaction delay of 5 years we see that Ability to Detect Deception suddenly spikes upward. These spikes are mass panic reactions to flagrant amounts of

corruption. When a spike is underway a society will be wildly investing in all sorts of things to increase the public's ability to spot political deception, like editorials and articles explaining how certain politicians are using lies and favoritism to achieve their nefarious goals, investigations to get to the bottom of various scandals and root out corrupt politicians, speeches extolling the importance of virtue and the ravaging effects of corruption, and so forth. Mechanisms to detect falsehood will start spontaneously appearing, such as the way factcheck.org appeared in the 2004 election in the US.

The incubation time of 10 years and other delays causes the percentage of degenerates to not fall as fast or as soon as Ability to Detect Deception spikes upward. Instead, there is a noticeable lag. While it takes only about 25 years for Ability to Detect Deception to reach its peak, it takes about 70 and 80 years for the percentage of degenerates to fall to its lowest level and for the rationalists to reach their peak. These excruciatingly long delays do occur, because it normally takes generations for fundamental cultural norms, like ideology allegiance or addiction to consumptive extravagance, to shift radically.

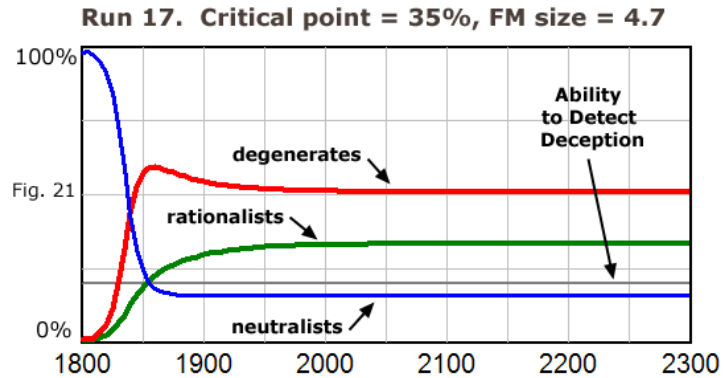
Once a critical point reaction occurs, eventually the bad guys and the good guys switch places and a society enters good times. Those times are so good, and what is allowing them is so well hidden, that without realizing it society "forgets" that it should be investing in keeping the Ability to Detect Deception high. The result of this oversight is that very early in the cycle the level of detection ability starts to fall. In this run it starts to fall after only about 25 years, which is 1/8 of the cycle's length. It continues to fall, though the rate of fall slows down as it approaches its normal level of 20%.

In the graph the good times begin when supporter type crossover occurs after about 35 years. After this the good guys are dominant. This lasts for about half the cycle's length, and then crossover occurs again as the bad guys become dominant. As the percentage of degenerates continues to increase, it eventually triggers another critical point reaction and the cycle starts all over again.

Notice that after 1900 the percentage of neutralists stays within a range of 17% to 29%. This corresponds to the roughly 10% to 30% of the population who are the so called "swing voters." These voters are not strongly committed to either side. If the percentage of rationalists is close to the percentage of degenerates in a political system, as it so often is, then it is the neutralists who determine election outcomes. This fact has not escaped the attention of election strategists.

RUN 17 – In the first draft of this paper I completely missed the fact there is a very successful strategy the bad guys can employ to totally overcome what the good guys did in run 16. It was only due to correcting a modeling error, which took two days, that I noticed that the bad guys have an ace up their sleeve.

Once the cyclic behavior of run 16 begins, the bad guys are dominant a little less than half the time. Thus they are losing. But as the graph below shows, they can win by “losing” even more! This is done by increasing false meme size from 2.4 to 4.7 so as to get caught red handed even more. This causes the pre 1900 portion of the run to level out at 40% instead of the 20% percent rationalists that we saw in run 15. The amazing result is the critical point of 35% percent rationalists is never triggered, the cyclic behavior never happens, and the bad guys, instead of being dominant less than half the time as in run 16, now stay at 60% dominance! How’s that for craftiness?

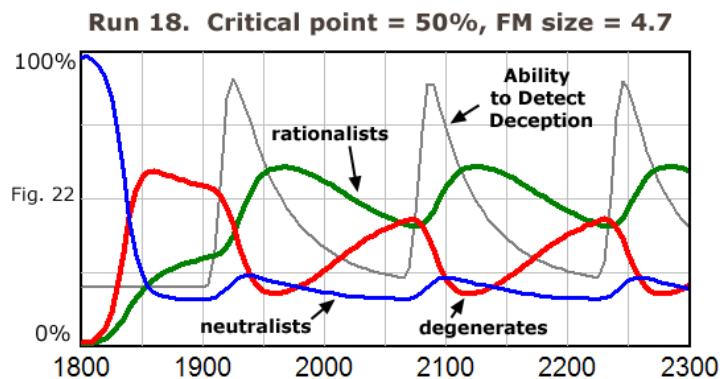


In other words, at a 35% critical point corrupt politicians can win big by telling whoppers they know are going to be detected and cause them to lose more supporters. This corresponds to the flagrant, braggadocio style of lie spinning and cash for favors we sometimes see corrupt politicians or political parties engaging in. There seems to be no logical reason they would try to get caught. But from the viewpoint of the model, there is a perfectly sane reason for such insane behavior: it is the winning strategy. *Figuring out why baffling social behaviors like this occur is impossible without building models like this one.*

RUN 18 – It looks like our friends, the virtuous politicians, have no choice but to try a higher critical point. Let’s hold false meme size at 4.7 and raise the critical point to 50%.

Once again we have cyclic behavior, though it is a little less so than in run 16. This time the bad guys are dominant only about 10% of the time.

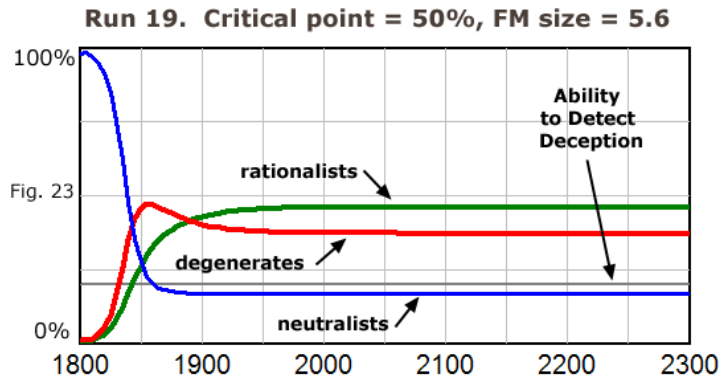
This run begs the intuitive question, if Ability to Detect Deception is 50%, then why aren’t the rationalists and degenerates each dominant about 50% of the time?



The answer is they would be, if repulsion to corruption was 0% instead of 20%. But 0% is unrealistic, because some people *do* take effective action when they detect corruption, so we have used the value of 20%.

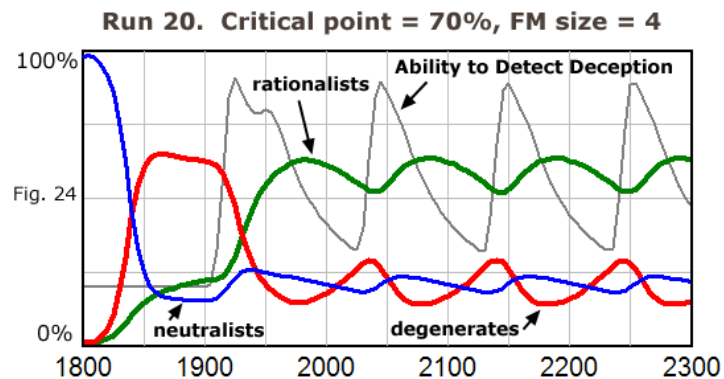
We must not forget for a moment the cleverness of those who believe the end justifies the means. Is there a winning strategy the bad guys can use to counter a critical point of 50%?

RUN 19 – Yes there is. Telling even bigger whoppers works like a charm once again. A false meme size of 5.6 allows the bad guys to do much better than being dominant 10% of the time, as in run 18. The results show they don't do quite as well as run 18, because now they are in the minority. But they have achieved a dominance of 45%, which is definitely enough to achieve many of their goals, not to mention the sizable impact such a large minority would have on political decision making.



RUN 20 –The rationalists need to do much better. Let's get serious and increase the critical point to 70%. Surely this will do the job. At least I hope it does, because raising Ability to Detect Deception that high is not going to be easy.

The results of this experiment are much better, as expected. For the first time the rationalists are safely in control of the political system all the time, by a very comfortable margin. There is still a little cyclic behavior, but now the forces of reason are never seriously challenged. The rationalists average about 60% of the population and the degenerates average about 20%.



Once again, is there a strategy the bad guys can use to do better? No. At least not the way this model is constructed. A false meme size of 6.7 does avoid triggering the critical point reaction, but the bad guys average only the same percent dominance. That strategy does not give a better outcome. In this run their best strategy is to maximize their cyclic dominance and use the chaos that causes to try for a lucky victory, which requires adapting to an optimal false meme size of about 4. Thus an important conclusion we can draw from this model is that a high level of Ability to Detect De-

ception is required to successfully counter the extraordinary power of the race to the bottom.

But we are not yet done. Looking at the graph closely, this run is still not good enough, because even a 20% minority, with occasional swings to over 25%, can still upset the applecart. In modern democracies, every sizable minority still has a voice that must be listened to and frequently accommodated. Thus if a society was trying to deal with a problem so large and difficult that it required all of that society's or a planet's attention to solve it, a 20% minority would prevent that.

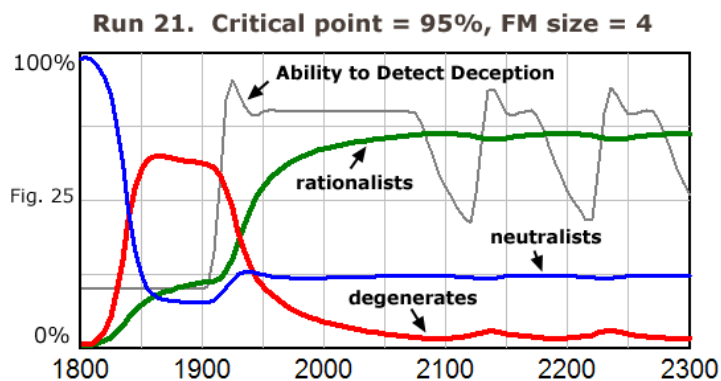
So how high does the critical point have to go to solve the problem? That is, how strong does a society's organizational memory have to be for it to always remember how to prevent excess corruption? Let's continue experimenting to find out, by raising the critical point again, this time to 95%. The optimal false meme size of 4 remains the same.

RUN 21 – The results below show that the cyclic behavior is now almost completely gone. But some still exists and there are still a few degenerates to be reckoned with. Is a critical point of 95% good enough to solve problems as intractable as the global environmental sustainability problem?

I think not, for several reasons. One is that as long as some cyclic spikes exist in a social system, it is too easy for those signals to obscure other signals and thus add to the complexity of any problems a society may be trying to solve. Ability to Detect Deception spikes are not just another signal—they lay at the very

heart of human systems, because they are attempts to adjust the perceptual acuity of self-governance. That acuity needs to be at least 20/20 to be able to see the true facts of the many complex, difficult problems governments are responsible for solving. Thus spike signals due to rising degeneration must be responded to in a serious manner, because they may indicate problems of great importance. In addition to the signal confusion problem, spikes in Ability to Detect Deception investment siphon investment away from other endeavors.

There is, however, an even greater reason that a corruption critical point of 95% is not good enough. I believe you can see for yourself what that reason is, from this article that appeared just yesterday as I was writing this. Only the first half of the article is quoted. The rest adds very little to the article's basic argument. (*Italics added*)



ON CLIMATE CHANGE, A CHANGE OF THINKING, by Andrew C. Revkin,
The New York Times, December 4, 2005.

"In December 1997, representatives of most of the world's nations met in Kyoto, Japan, to negotiate a binding agreement to cut emissions of greenhouse gases.

"They succeeded. The Kyoto Protocol was ultimately ratified by 156 countries. It was the first agreement of its kind. But it may also prove to be the last.

"Today, in the middle of new global warming talks in Montreal, there is a sense that the whole idea of global agreements to cut greenhouse gases won't work. A major reason the optimism over Kyoto has eroded so rapidly is that its major requirement – that 38 participating industrialized countries cut their greenhouse emissions below 1990 levels by the year 2012 – was seen as just a first step toward increasingly aggressive cuts.

"But in the years after the protocol was announced, developing countries, including the fast-growing giants China and India, have held firm on their insistence that they would accept no emissions cuts, even though they are likely to be the world's dominant source of greenhouse gases in coming years. Their refusal helped fuel strong opposition to the treaty in the United States Senate and its eventual rejection by President Bush.

"But *the current stalemate* is not just because of the inadequacies of the protocol. It is also a response to the world's ballooning energy appetite, which, largely because of economic growth in China, has exceeded almost everyone's expectations. And there are still no viable alternatives to fossil fuels, the main source of greenhouse gases.

"Then, too, there is a growing recognition of the economic costs incurred by signing on to the Kyoto Protocol. As Prime Minister Tony Blair of Britain, a proponent of emissions targets, said in a statement on Nov. 1: '*The blunt truth about the politics of climate change is that no country will want to sacrifice its economy in order to meet this challenge.*' "

The message I glean from this article is that the solution adoption resistance part of the problem has reached the stage where it is no longer just difficult—it may now be impossible to solve in time. This is because, as shown in Tony Blair's statement, most of the world is trapped in an **Economic Race to the Bottom among Nations** and doesn't know how to get out. But guess what life form benefits most from that particular downward spiral and therefore has caused it to happen? And guess what high leverage point must be pushed extraordinarily well to stop that downward spiral in its tracks?

The problem is now so close to the threshold of insolvability (or past it, we really don't know) that society no longer has the luxury of tolerating *any* corruption, because any corruption hinders solving the problem and could tip it over the threshold.

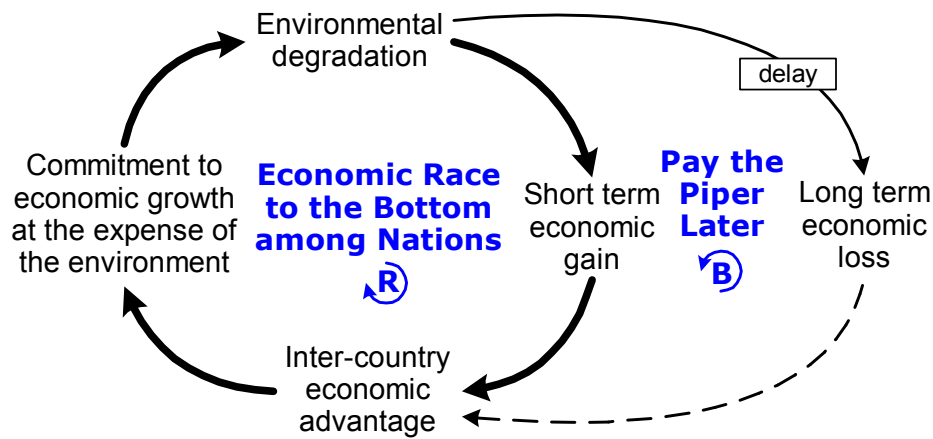


Figure 26. What Tony Blair was really saying is no country can afford to “sacrifice its economy” to get out of the above race to the bottom. This is because the New Dominant Life Form has structured the international commerce game so that nations see the main loop before the side loop. The way out is to raise ability to detect deception at the level of nations, so that they can break free of the illusion that they are trapped in the main loop, and can see the truth: that the *Pay the Piper Later* side loop is the more important loop to their citizens.

One solution alternative is to wait until the first wake up call environmental catastrophes start to occur, and then use the belated global realization that humanity *must* solve the problem to move forward to a solution. But if we wait that long, Humpty Dumpty will have already fallen off the wall, and it will not be possible to put all of the pieces back together again.

The case can even be made that as percent degenerates approaches zero, a multiplier effect is at work. These last few percent are the desperate, hard core degenerates, which includes the smartest of the lot. As percent degenerates goes low, every special interest degenerate ties up two or more for-the-good-of-all rationalists, because (under present conditions) that's how many people it takes to handle damage control and counter the insidious, endlessly disruptive stream of falsehood and favoritism.

Therefore a rule of zero tolerance to political corruption must be adopted, so that *Homo sapiens* is not distracted while it attempts to save itself from ecocide. Anything less is just asking for trouble when it comes to figuring out how to get the US, China, India, and the entire world on board a rapid and radical solution to the climate change problem, as well as to other global environmental problems such as topsoil loss, deforestation, and groundwater depletion.

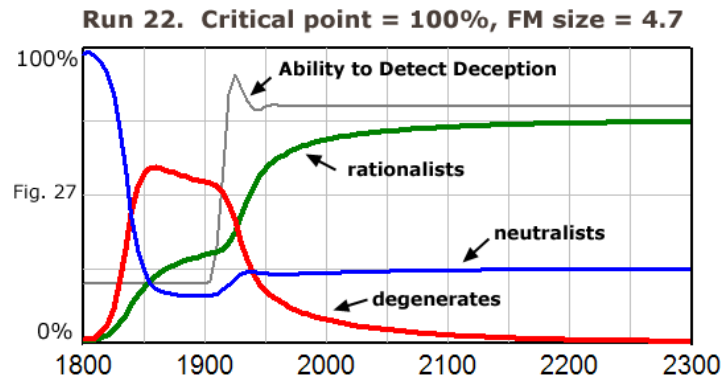
Let's take a look at what would happen if we tried to do that in the final simulation run, which uses a critical point of 100%.

RUN 22 – As expected, zero tolerance to corruption completely ends the cyclic behavior of the dueling loops. Once the rationalists rise to dominance they stay there. Degenerates do not just drop to a low level—they are reduced to 0%. Their best strategy is to hold out as long as possible, by using a false meme size of 4.7. After about 50 years, society's Ability to Detect Deception holds steady at 80%. A successful transition to solving the solution adoption resistance part of the problem has occurred.

But this transition takes a long time. It takes about 25 years for rationalists to begin to outnumber degenerates, and 40 years for percent rationalists to rise to 69% (barely over a 2 to 1 majority), which was mentioned in run 13 as probably the bare minimum it will take to make a serious start

on solving the problem, though it is still too low to be enough. As we argued in run 21, it will take somewhere near 100% to be enough.

Because the model is not calibrated (the numbers used in it are estimated, not measured), it cannot make accurate predictions. Nevertheless, it does look as if solving the solution adoption resistance part of the problem will take a long time. Will it take too long? That is one of the great questions facing problem solvers and civilization.



This completes the presentation of the dueling loops simulation model. This model is a simplified version of a larger one explaining more of the problem. The model presented here contains 4 stocks and 43 variables. The larger one has 11 stocks and 123 variables. This allows the larger model to more completely show how the New Dominant Life Form is exploiting the race to the bottom by the use of a subsystem that pits corporate proxies against humanists in a life or death battle for niche dominance. The larger model also goes into more detail on the high leverage points and even includes a third one: *quality of political decision making*. It is this third high leverage point that must be pushed if humanity is to correctly couple the human system to the environment system, in such a manner that the problem is solved as fast as possible and never occurs again. If you are interested in examining the simulation models presented here, the larger model, or the manuscript in progress this paper is a partial summary of, please see Thwink.org.

It is one thing to point out *where* to push to solve a complex system problem, and quite another to say *how* to push. In addition, the high leverage points covered in this paper are unconventional. It is probably not at all obvious how to push on them and to begin to implement the concepts in this paper. In addition, a little fresh thinking is needed. For these reasons here are three sample solution elements to illustrate how

the high leverage point of general ability to detect political deception could be adequately pushed on:

THE TRUTH TEST SOLUTION ELEMENT

The Truth Test is a personal skill, much like other skills such as frugality, language, and mathematics. It is designed to handle nearly all arguments the average person receives in seconds or minutes. The rest take longer or an expert.

The objective of the Truth Test is to reduce deception success at the individual level to a very low, acceptable amount. It consists of four simple questions:

1. What is the argument?
2. Are any common fallacies present?
3. Are the premises true, complete, and relevant?
4. Does each conclusion follow from its premises?

The Truth Test allows people to test the soundness of the political arguments they encounter, such as in speeches, advertisements, and articles. Once citizens can no longer be fooled by unsound arguments, they will elect better leaders and support better positions.

We certainly don't expect the general population to master the Truth Test any time soon. But we do expect those performing Truth Ratings (described below) to do so, as well as those who are trying for high Truth Ratings.

As the general population sees the published Truth Ratings and occasionally reads the details behind a rating they are interested in, they will get a long, gradual exposure to how the Truth Test works. This and more direct educational efforts will gradually lead to **truth literacy**, which is the ability to tell truth from falsehood.

Universal truth literacy is just as important to society as reading literacy, because if people cannot "read" the truth, then they are blind to what the truth really is.

The average person is never taught anything like the Truth Test at home, in school, or in the workplace. *Thus their immunity to deception is largely a matter of cultural chance.* For truth literacy to become a cultural norm and achieve its full potential, it must become as essential to a person's education as reading and writing.

History has shown again and again that those who are not truth literate become the unknowing slaves of the masters of falsehood, as the cyclic nature of the race to the bottom versus the race to the top plays itself out over and over. *The appalling effects of this cycle, during which corrupt politicians and special interests are dominant most of the time, is historic proof that truth literacy is every bit as important to society as reading literacy.* This applies even more so today because if the truth about sustainability is not seen and practiced in time, "The most probable result will be a sudden and uncontrollable decline in both population and industrial capacity." (Meadows et al., 1972)

HOW THE TRUTH TEST WORKS DYNAMICALLY

Implemented properly, the Truth Test is true structural change. It works by introducing the reinforcing feedback loop shown to the right.

Once a person completes initial study of the Truth Test the cycle of **Lifting the Blanket of Deception** can begin. Use of the Truth Test increases the amount of falsehood spotted on everyday arguments. This increases quality of decisions. Once a person perceives this has happened, an increase in knowing you benefited from better decisions occurs. This causes that person to use the Truth Test even more, and the main loop starts over.

Let's examine the side loop. Knowing you benefited from better decisions will increase study of the Truth Test. This occurs when people realize that if they study more, they can handle a broader range of arguments and make better analyses. Or there may be a particular type of argument they would like to handle better. After the *delay* of learning, there will be a tendency to use the test more, because now it can offer them even greater benefits.

As just one example of how the Truth Test might affect society, imagine what a talk show might be like if the host was trained in the Truth Test and was familiar with Truth Ratings. After a particularly fallacious string of comments from a guest, such as one from a biased think tank, the host might reply with "By the way, while you and I have been talking, my assistant was jotting down how many fallacies and truths you uttered, and what kind. Did you realize that since you began ten minutes ago, out of a total of 24 propositions, 6 were *ad hominem* attacks, 4 were based on biased samples, and 8 were false enemies or pushing the fear hot button without any justification? This leaves only 6 reasonably true propositions. In other words, in my opinion your sequacious punditry is false 75% of the time. THAT is the real news here. And..., let me see, my assistant reminds me that it was about the same last time you were on. What do you say to that?"

The silence that followed might be the sound of the beginning of the race to the top.

The Dynamic Structure of the Truth Test

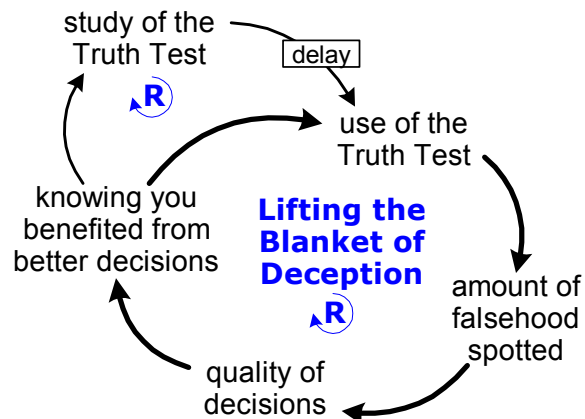


Figure 25. The Truth Test lifts the blanket of deception higher and higher by the more you use the Truth Test, the more you benefit, and so the more you want to use it.

The Truth Test provides a way for citizens of all kinds, including talk show hosts, to spot the truth. But it is a bit of a stretch to expect that truth literacy will sweep the world soon. The Truth Test also provides no direct incentive whatsoever for corrupt politicians to start telling the truth. For that we need:

THE TRUTH RATINGS SOLUTION ELEMENT

Truth Ratings work by rating the truth of important statements made by politicians. They are similar to other types of ratings that have been around for a long time.

Credit ratings quantify the creditworthiness of a person, organization, or government. Product ratings, such as those in Consumer Reports magazine, quantify the worthiness of products. Both are widely used. Truth ratings would quantify the truthfulness of important political arguments.

A **truth rating** is the probability an argument is true. For example a few days after a presidential debate, its truth ratings would come out. They might say that candidate A averaged 45% true, while candidate B averaged 70%. Guess which candidate would probably win the debate in the public's mind?

If the organization doing the rating was credible and the public trusted the truth ratings, a race to the top would begin. Politicians would compete to see who could be the most truthful in the fullest sense of the word, and therefore the most helpful. Campaigns would become based on reason and truth rather than rhetoric, falsehood, and favoritism. Due to a trickle down effect from the successful use of Truth Ratings, a race to the top would also begin in other areas of society where less than the truth has long prevailed, such as advertising, editorials, and the billions of conversations that go on everyday as people struggle to reason forward to what they should do.

No one person can become an expert on the many critical issues of our day and spend hundreds and sometimes thousands of hours analyzing each important political argument they encounter. Instead of individuals continuing this impossible task, certified independent rating organizations would do it. Using the Truth Test, these organizations would quantify the truthfulness of important political arguments and provide a written rationale for each rating, so that the public could make its own final judgment. As they read more about the logic behind ratings of interest, the public would gradually become educated in how to apply the Truth Test.

However, the truth of political arguments is not the only behavior that needs to be rated in order to establish the correct feedback loops. The overall corruption of politicians must also be rated. This is done with:

THE CORRUPTION RATINGS SOLUTION ELEMENT

A **corruption rating** is an overall measure of how corrupt a politician is. Corruption includes falsehood, favoritism, coercion, abuse, criminal activity, the giving or accepting of bribes, knowledge that corruption is going on, and so on.

A major component of a politician's Corruption Ratings is past Truth Ratings. This would account for 40% or so of the rating. As a politician's Truth Ratings go up, his or her Corruption Rating would go down.

Corruption Ratings would need to be done regularly, perhaps every two years. The running average of the last ten years or so would be a politician's rating. Corruption Ratings would become as routine and cost about as much as a high level security check.

Truth Ratings and Corruption Ratings are examples of **politician ratings**. Both would be calculated by certified independent organizations. Because it measures total corruption, Corruption Ratings would play the stronger role. However Truth Ratings are easier and cheaper to perform, and thus would probably make a difference first.

Politician ratings need not affect all voters to make the critical difference—only the swing voters, who are normally just 10% to 30%. Fortunately it is this group who is most likely to be receptive to a tangible, sound reason to choose one politician over another.

THE ANALOGY OF CREDIT RATINGS

Politician ratings are analogous to credit ratings. To demonstrate how important credit ratings have become in just one area, the corporate bond market, below is an excerpt from testimony presented to the US Senate on March 20, 2002, to the Committee on Governmental Affairs, chaired by Senator Joe Lieberman: (US Senate, 2002) (Italics added)

"Simply put, a credit rating is an assessment of a company's credit worthiness or its likelihood of repaying its debt.

"John Moody, the founder of what is now Moody's Investors Service, is recognized for devising credit ratings in 1908 for public debt issues, mostly railroad bond issues. Moody's credit ratings, first published in 1909, met a need for *accurate, impartial, and independent information*.

"Now, almost a century later, an 'investment grade' credit rating has become an absolute necessity for any company that wants to tap the resources of the capital markets. The credit raters hold the key to capital and liquidity, the lifeblood of corporate America and of our capitalist economy. The rating affects a company's ability to borrow money; it affects whether a pension fund or a money market fund can invest in a company's bonds; and it affects stock price. *The difference between a good rating and a poor rating can be the difference between success and failure, prosperity and bad fortune.*"

In a similar manner, the difference between a good politician rating and a poor one would be the difference between success and failure for politicians, and prosperity and bad fortune for the public.

But even more interesting is the testimony went on to say:

“The government – through hundreds of laws and regulations – *requires corporate bonds to be rated* if they’re to be considered appropriate investments for many institutional investors.”

So too would the government require politicians to be rated if they were to be considered appropriate investments for many citizens. Credit ratings greatly lower the risk of financial loss. Corruption Ratings would greatly lower the risk of corruption. If they proved as successful as credit ratings, they would lower it by somewhere around 99%, which would make sizeable cases of corruption about as frequent as Halley’s Comet.

Presently corporate bond ratings are required but Corruption Ratings are not. This is one more example of how, over the centuries, the New Dominant Life Form has silently and relentlessly defined the rules of the game to be in its favor.

HOW POLITICIAN RATINGS WORK DYNAMICALLY

Like all deep structural change, politician ratings would cause important new feedback loops to become dominant. The diagram shows the main loop is ***The Public Loves Those They Can Trust***. *This is probably the most important feedback loop in the entire solution, because if it works, the whole solution will probably work.*

Let’s start at the top of the main loop, on the use of ratings of politician’s behavior node. Suppose that node is activated because ratings have been implemented and are being regularly published for a few politicians. The ratings would at first be embarrassingly bad.

This would cause a politician being rated to want to improve the quality of his or her behavior in order to get better ratings. This causes an increase in virtuous behavior, which would lead to better Truth and Corruption Ratings. This would increase the relative advantage of a politician in the eyes of the public, because the public can now reliably tell whose arguments are more truthful and whose overall behavior is less corrupt, and thus who is a more trustworthy representative and more likely to get better results. This would increase public support of the politician, which would in turn increase their election and reelection advantage. The politician would know this happened. They would also know this benefited the people, so he or she would promote the use of ratings of politician’s behavior so as to gain an even larger advantage and more benefits for the people. The loop then starts over.

Because politicians would now be competing on virtue instead of corruption, a race to the top among politicians would begin. This would cause the race to the bottom to collapse, because its supporters would switch to the race to the top.

It is essential to understand the balancing loops that accompany the main loop. If problem solvers don’t comprehend how the balancing loops work, they may be unable to design the most effective solution aspects, or they may have difficulty figuring out what went wrong if things go awry in implementation. *They may fail to understand what is limiting how far the race to the top can go, so they may be unable to make it go far enough.*

How the balancing loops work is too involved to cover in this brief paper. For those curious about this please see the online larger work in progress mentioned earlier.

SUMMARY AND KEY FINDINGS

Simplifying enormously, most conventional wisdom says all we need to do to solve the sustainability problem is to find the proper practices needed to live sustainably and then aggressively promote those practices until they are adopted. This approach has tremendous logical and technical appeal. The inner talk runs about like this: "Solving this problem is basically a matter of finding out what's best for the good of all, and then spreading that knowledge. Once people and governments see what's in their own best interests, they will start doing things that way, because people are rational."

There is, however, a slight drawback to this approach. It doesn't work.

This is because it completely misses the social side of the problem, and fails to see the hidden social structure that is the true cause of decades of solution failure. If problem solvers would focus their efforts on why so much change resistance is occurring they might find, as this analysis has, that all they've been doing is engaging in "more of the truth." This is a low leverage point. *Pushing on this point fails because it is no more than a heavy handed, naive attempt to make the race to the top dominant*

The Dynamic Structure of Politician Ratings

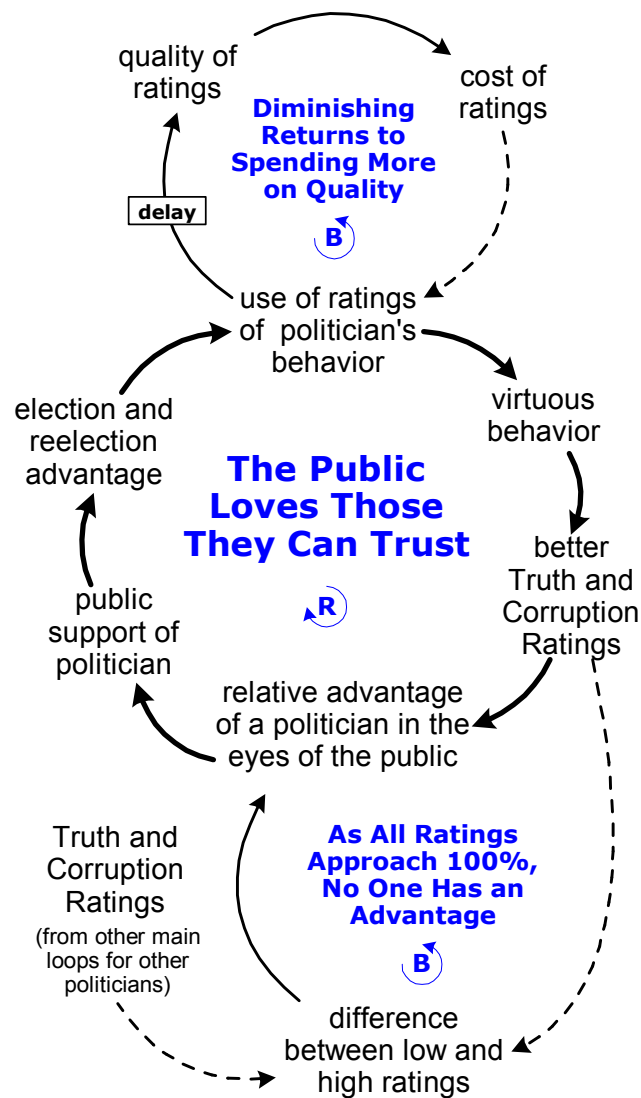


Figure 26. The three main loops of the politician ratings solution elements. This is deep, long overdue structural change to the human system. Like so many other fundamental feedback loop changes, such as voting and universal education, this change will automatically drive the system more towards providing for the greatest good of all.

through the application of brute force. It does not consider that the race to the bottom is inherently stronger and has a more powerful special interest group behind it. Thus conventional approaches have no hope of succeeding, unless the laws of physics change or a “wakeup call catastrophe” occurs in time. Neither appears likely.

Fortunately there is at least one way out. It is the high leverage point of general ability to detect political deception. Currently this is low. If problem solvers can raise it to a high level the race to the bottom will collapse, leaving the race to the top dominant. Politicians will then respond correctly to the truth about the global environmental sustainability problem because it will now be in their best interests. If they come to the same conclusion that environmentalists have, that sustainability is civilization’s top priority and nothing else comes close, then civilization will at long last enter the Age of Transition to Sustainability.

One way to summarize this paper is that democracy doesn't work if citizens cannot tell the difference between a good and a bad politician.

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Meadows, D. H. & Meadows, D. L. & Jorgen, R. 2004. *Limits to Growth: The 30-Year Update*. Chelsea Green Publishing Company. The preface states: “It is a sad fact that *humanity has largely squandered the past 30 years* in futile debates and well-intentioned, but halfhearted, responses to the global ecological challenge. We do not have another 30 years to dither. Much will have to change if the ongoing overshoot is not to be followed by collapse during the twenty-first century.”

USC. 2003. The Union of Concerned Scientists. 2003 Annual Report. www.ucsusa.org/assets/documents/_ucs/_Annual_Report_2003_1.pdf. October 27, 2005. The report writes “We are confident he [Kevin Knobloch, their new President] is the person best able to lead the organization in what is, without question, *the most hostile environment in which we have ever struggled to advance our goals.*”

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ENDNOTES

¹ Why exactly do virtuous politicians feel they cannot tell lies? The goal of virtuous politicians is to optimize the common good for all, which includes those who will follow us. The common good includes *the rule of telling the truth*, because the more you can assume a person is telling the truth, the more effectively you can cooperate. Effective cooperation is the foundation upon which all social contract societies are built. Because virtuous politicians feel compelled to tell the truth, they avoid lying. They know that if they start telling lies their society will begin to crumble. Eventually it will degrade to life in mankind's natural state (before that of a central government based on cooperation) where, as Thomas Hobbes put it, "the life of man" is "nasty, brutish, and short."

But corrupt politicians feel no such constraint. Their goal is the uncommon good, that is, the good of special interests. Instead of the rule of telling the truth, corrupt politicians follow *the rule of expediency*: do whatever it takes to maximize the good of the special interests supporting you. The end justifies the means. If a situation is best exploited by telling the truth, tell it. If it's best exploited by a combination of truth and lies, then do that. This makes it impossible to trust corrupt politicians. But that doesn't matter, because if their deception is successful the public has no idea they are being exploited.

² This raises a question: How can you tell whether a corporation is pursuing green behaviors just for better PR and to avoid being called anti-environmental, or because they are altruistic, and sincerely want to help solve the sustainability problem?

One way to answer this is to see if they are trying to find out when certain sustainability subproblems (like climate change and natural resource depletion) need to be solved by to avoid catastrophic collapse. If they are seeking out this data and using it to set their own targets of being 100% sustainable by those deadlines, then they are behaving responsibly. They are not a threat to the future health of the environment. But if they are setting impact reduction targets without regard to reducing their impact to a sustainable level in time to avoid collapse, then you can safely assume that those targets and actions are window dressing, no matter how skillfully they are marketed as proof that corporation has climbed aboard the sustainability bandwagon.

³ Source of poll on back cover: *Publics Want More Government Action on Climate Change: Global Poll*, July 29, 2009 by WorldPublicOpinion.org. The poll used 18,578 respondents in 19 nations comprising 60% of the world's population. The key finding was that an average of 60% "think their government should put a higher priority on addressing climate change than it does now." This includes 62% in China, 52% in the US, and 56% in Russia. An average of 18% think their government has the right priority. Only 12% think climate change should have a lower priority. The balance of 10% had no opinion. See www.worldpublicopinion.org/pipa/articles/btenvironmentra/631.php. (This endnote was not in the original article. Nor was the front and back cover.)

WHY NOT TRY ROOT CAUSE ANALYSIS?

In 1962 *Silent Spring* launched the modern environmental movement. In 1972 *The Limits to Growth* conclusively showed that "if the present growth trends ...continue unchanged ...the most probable result will be a rather sudden and uncontrollable decline in both population and industrial capacity."

So WHY has this insane self-destructive behavior occurred:

The GLOBAL ECOLOGICAL FOOTPRINT has grown from 60% of planetary capacity in 1960 to a shocking 150% in 2007, despite decades of effort by millions of dedicated environmentalists. The world is now in 50% overshoot and living on borrowed time.

An international poll shows the majority of people in 19 nations favor stronger action on climate change. ³ Yet their nations are **NOT DOING THAT**.

In the latest attempts to create a successor to the Kyoto Protocol, the world has been **UNABLE TO AGREE** on binding targets for greenhouse gas emissions. Our best hope for solving the climate change problem is being abandoned.

WHY is this? HOW can we solve the problem? This pamphlet presents an unconventional answer. It's a simple answer because it's based on common sense. All we have to do is apply this time tested universal principle:

Difficult problems can be solved only by
resolving their root causes.

If public interest activists can switch to a problem solving process based on root cause analysis everything will change, just like adoption of the Scientific Method launched the Scientific Revolution.

In a step by step manner that is easy to follow, this pamphlet presents an analysis of the factors involved. This leads to the **ROOT CAUSE** of the problem. This in turn leads to the **HIGH LEVERAGE POINT** for resolving the root cause. Because the root cause has long been overlooked, the high leverage point has **NEVER BEEN PUSHED ON**. It's just sitting there waiting to be activated.