PPR debate

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Mind games

Does language frame politics?

Steven Pinker versus George Lakoff

Steven Pinker is Johnstone Professor at Harvard University. His latest book, *The Stuff of Thought: Language as a window into human nature*, will be published by Viking later this year.

George Lakoff is the Richard and Rhoda Goldman Professor of Cognitive Science and Linguistics at the University of California, Berkeley, and a founding senior fellow of the Rockridge Institute, a centre for research devoted to promoting progressive ideas.

Dear George Lakoff,

Re: Lakoff's recent tome *Whose Freedom? The battle over America's most important idea*

The field of linguistics has exported a number of big ideas to the world. The evolution of languages as an inspiration to Darwin for the evolution of species; the analysis of contrasting sounds as an inspiration for structuralism in literary theory and anthropology; the Whorfian hypothesis that language shapes thought; and Chomsky's theory of deep structure and universal grammar. Even by these standards, your theory of conceptual metaphor is a *lollapalooza*. If you are right, your theory can do everything from overturning millennia of misguided thinking in the Western intellectual tradition to putting a Democrat in the White House.

Your theory begins with your analysis of metaphor in everyday language, first presented in 1980 in a brilliant book written with Mark Johnson called *Metaphors We Live By*. When we say 'I shot down his argument,' or 'He couldn't defend his position,' we are alluding to an unstated metaphor that argument is war. Similarly, to say 'Our marriage is at a crossroads,' or 'We have come a long way together,' is to assume, metaphorically, that love is a journey. These metaphors saturate our language and spin off variations that people easily understand (such as 'We need to step on the brakes'). In each case, people must grasp a deep equivalence between the abstract idea and the concrete experience. You insist, not unreasonably, that this is an important clue to our cognitive makeup.

But this isn't the half of it. Conceptual metaphor, according to you, shows that all thought is based on unconscious physical metaphors, with beliefs determined by the metaphors in which ideas are framed. Cognitive science has also shown that thinking depends on emotion, and that a per-

son's rationality is bounded by limitations of attention and memory. Together, these discoveries undermine, in your view, the Western ideal of conscious, universal, and dispassionate reason based on logic and fact. Political ideologies, then, cannot be understood in terms of assumptions or values, but only as rival versions of the metaphor 'society is a family'. The political right likens society to a family ruled by authoritarian parenting, whereas the political left prefers a family cared for through nurturant parenting.

Political debates, according to you, are contests between metaphors. Citizens are not rational and pay no attention to facts, except as they fit into frames that are 'fixed in the neural structures of their brains' by sheer repetition. In George W Bush's first term, for example, the president promised tax 'relief,' which frames taxes as an affliction. The Democrats were foolish to offer their own version of tax relief, which accepted the Republicans' framing; it was like asking people not to think of an elephant. Instead, they should have reframed taxes as 'membership fees', necessary to maintain the services and infrastructure of the society to which they belong.

And now, in your new book, you take on the concept of freedom, which was mentioned 49 times in Bush's last inaugural address. American conservatism, you say, appeals to a notion of freedom rooted in strict-father morality; but this is a hijacking of the traditional American concept, which is based on progressive values of nurturance and empathy.

There is much to admire in your work in linguistics, but *Whose Freedom?* and, more generally, your thinking about politics, is a train wreck. The book has no footnotes or references (just a generic reading list), cites no studies from political science or economics, and barely mentions linguistics. Its use of cognitive neuroscience goes way beyond any consensus within that field, and its analysis of political ideologies is skewed by your own politics. And your cartoonish depiction of progressives as saintly sophisticates, and conservatives as evil morons fails on both intellectual and tactical grounds.

Let us begin with the cognitive science.

As many of your sceptical colleagues have noted, the ubiquity of metaphor in language does *not* imply that all thinking is concrete. People cannot use a metaphor to reason with, unless they have a deeper grasp of which aspects of the metaphor should be taken seriously and which should be ignored. When reasoning about a relationship as a kind of journey, it is fine to mull over the counterpart to a common destination, but someone would be seriously deranged if he wondered whether he had time to pack. Thinking cannot trade in metaphors directly. It must use a more basic currency that captures the abstract concepts shared by the metaphor and its topic, while sloughing off the irrelevant bits.

Also, most metaphors are not processed as metaphors at all. They may have been alive in the minds of the original coiners, but subsequent speakers may have memorised the idiom by rote. Laboratory experiments have confirmed that people don't think about the underlying image when understanding a familiar metaphor, only when they are faced with a new one.

Your way with brain science is even more dubious. It is true that 'the frames that define common sense are instantiated physically in the brain', but only in the sense that every thought we think – permanent or transient, rational or irrational – is instantiated physically in the brain. The implication that frames, by being 'physically fixed' in the brain, are especially insidious or hard to change is gratuitous.

Also, cognitive psychology has not

shown that people absorb frames through sheer repetition. On the contrary, information is retained when it fits into a person's greater understanding of the subject matter. Nor is the claim that people are locked into a single frame anywhere to be found in cognitive linguistics, which emphasises that people can nimbly switch among the many framings made available by their language. The upshot is that people can evaluate their metaphors.

You tell progressives not to engage conservatives on their own terms, not to present facts or appeal to the truth, and not to pay attention to polls. Instead they should try to pound new frames and metaphors into voters' brains. Don't worry that this is just spin or propaganda, you write.

But your advice doesn't pass the giggle test. One can imagine the howls of ridicule if a politician took your Orwellian advice to rebrand taxes as 'membership fees'. Surely no one has to hear the metaphor 'tax relief' to think of taxes as an affliction. And why should anyone feel the need to defend the very idea of an income tax? Has anyone recently proposed abolishing it?

You have written that people do not realise that they are really better off with higher taxes, because any savings from a federal tax cut would be offset by increases in local taxes and private services. But, if that is true, it would have to be demonstrated to a bureaucracy-jaded populace as an argument backed with numbers. And that is the kind of wonkish analysis that you dismiss.

Your theory is aimed at explaining a genuine puzzle: why the various positions clustering in left-wing and right-wing ideologies are found together. If someone is in favour of laissez-faire economics, it's a good bet the person will also favour judicial restraint, tough criminal punishment, and a strong military; and be opposed to expansive welfare programmes, sexual permissiveness, and shocking art. Conversely, if someone is an environmental activist, it is likely that he or she will favour abortion rights, homosexual marriage, and soak-the-rich taxes.

At first glance these positions would seem to have nothing in common. You argue that the two clusters fall out of the competing metaphors for the family (recall that, in your account, conservatives think of a strict father and progressives think of a nurturant), with the strict father demanding personal responsibility of his wayward children and punishing them when they misbehave, and the nurturant parent showing empathy and emphasising interdependence.

You do not mention that others have pondered this question before him, going back at least to Hobbes, Rousseau, Burke, and Godwin. The standard contemporary analysis sees the political right as having a tragic vision, in which human nature is permanently afflicted by limitations of knowledge, wisdom, and virtue, and the political left as having a utopian vision, in which human nature is naturally innocent, but corrupted by defective social institutions, and perfectible by reformed ones.

The right, therefore, has an affinity for market economies, because people will always be more motivated to work for themselves and their families than for something called 'society', and because no planner has the wisdom, information, and disinterest to run an economy from the top down. A tough defence and criminal justice system are needed because people will eternally be tempted to take what they want by force, so only the prospect of sure punishment makes conquest and crime unprofitable. And, since we are always teetering on the brink of barbarism, social traditions in a functioning society should be respected as time-tested

workarounds for the shortcomings of an unchanging human nature, as applicable today as when they developed, even if no one can explain their rationale.

The left, by contrast, is more likely to embrace George Bernard Shaw's (and later Robert Kennedy's) credo, 'Some people see things as they are and ask "why?", I dream things that never were and ask "why not?"' Psychological limitations are artifacts that come from our social arrangements, which should be scrutinised, morally judged, and constantly improved. Economies, social systems, and international relations should be consciously designed to bring about desirable outcomes.

This Enlightenment-inspired framing has a natural counterpart in your nation-as-family metaphor, because different parenting styles follow from the assumption that children are noble savages, and the assumption that they are nasty, brutish, and short.

Every thoughtful parent struggles to balance discipline and compassion, and one can imagine how a dialectic between these extremes might be the mental model behind right-left debates on welfare, crime, and sexuality. It is less clear how the metaphor would handle economics, since family members do not transact business with one another; or defence, since most families do not wage war against other families. And it cannot be reconciled with the concept of a democracy, in which citizens consent to be governed by representatives rather than being the infantilised dependents of their parents. But at least it is conceivable that a discipline-compassion dimension could shed light on our political psychology.

In any case, this is not the conceptual analysis that you provide. Your nurturant parent marks out not the indulgent pole of the continuum, but the ideal balancing point, setting 'fair but reasonable limits', and being 'authoritative without being authoritarian'. And the ideal parent, in the conservative worldview, loves and cares only for those of his children 'who measure up', and believes that 'affection is important, either as a reward for obedience or to prevent alienation through a show of love despite painful punishment'. You provide no evidence from linguistics or from surveys to show that this ludicrous ogre is the prototype of fatherhood in any common American conception of the family.

This put-up job is typical of your book. While you ostensibly offer a scholarly analysis of political thought, you cannot stop yourself from drawing horns on the conservative portrait and a halo on the progressive one. Nowhere is this more egregious than in your claim that conservatives think in terms of direct rather than systemic causation. You seem unaware that conservatives have been making exactly this accusation against progressives for centuries.

Laissez-faire economics, from Adam Smith to contemporary libertarians, is explicitly motivated by the systemic benefits of the market (remember the metaphor of the 'invisible hand'?). You strikingly misunderstand your enemies here, repeatedly attributing to them the belief that capitalism is a system of moral reckoning, designed to reward the industrious with prosperity and to punish the indolent with poverty. In fact, the theory behind free markets is that prices are a form of information about supply and demand that can be rapidly propagated through a huge, decentralised network of buyers and sellers, giving rise to a distributed intelligence that allocates resources more efficiently than any central planner could hope to do.

Whatever distribution of wealth results is an unplanned by-product, and, in some conceptions, is not appropriate for moralisation one way or

another. It is emphatically not, as you suppose (in a direct-causation mentality of your own), a moral system for doling out just deserts.

Likewise, cultural conservatives, from Burke to our own day, play up the systemic benefits of cultural traditions in bestowing unspoken standards of stability and decency on our social life. The 'broken windows' theory of crime reduction is an obvious contemporary example. And both kinds of conservatives gleefully point to the direct remedies for social problems favoured by progressives ('war on poverty' programmes, strict emission limits to fix pollution, bussing to negate educational inequality) and call attention to their unanticipated systemic consequences, such as perverse incentives and self-perpetuating bureaucratic fiefdoms.

Now, none of this means that the conservative positions are unassailable. But it takes considerable ignorance, indeed chutzpah, for you to boast that only a progressive such as yourself can even understand the difference between systemic and direct causation.

In examining the concept of freedom itself, you again make little use of previous analyses. Freedom comes in two flavours. Negative freedom ('freedom from') is the right of people to act as they please without being coerced by others. It obviously must be subject to the limitation that 'your freedom to swing your fist ends where my nose begins'. Just as obviously, freedom sometimes must be traded off against other social goods, such as economic equality, since, even in a perfectly fair and free society, some people may end up richer than others through talent, effort, or luck.

Positive freedom ('freedom to') is the right of people to the conditions that enable them to act as they please, such as food, health, and education. The concept is far more problematic than

negative freedom, because human wants are infinite, and because many of these wants can be satisfied only through the efforts of other humans. The idea that people have a right to paid vacations, central heating, and a college education would have been unthinkable throughout most of human history.

For this reason, positive freedom requires an agreed-upon floor for the worst-off in a society with a given level of affluence, and presupposes an economic arrangement that gives providers an incentive to benefit recipients without being forced to do so at gunpoint. That is why many political thinkers (most notably Isaiah Berlin) have been suspicious of the very idea.

Since freedom must be traded off against other social goods (such as economic equality and social cohesion), political systems can be lined up according to where they locate the best compromise, ranging from anarchism to libertarianism to socialism to totalitarianism. For better or worse, American political sentiments tend to veer in the libertarian direction, compared with other modern democracies. The tilt goes back to the Founders, who were obsessed with limiting governmental power, but not terribly mindful of what happens to those who end up in the lower social and economic strata.

This brings us to Bush's invocation of freedom. Bush has capitalised on the concept of freedom in two ways. He has preserved the perception that Republicans are more economically libertarian than Democrats, and he has waged war against a foreign movement with an unmistakable totalitarian ideology. This still leaves his opponents with plenty of ammunition, such as his hypocritical protectionism and expansion of government, and his delusion that liberal democracy can be easily imposed on Arab societies. But his invocation of 'freedom' has a semblance of coherence, and, like it or not, it resonates with many voters.

The same cannot be said for your conception. Your understanding is pure positive freedom, while acknowledging none of its problems. It consists of appending the words 'freedom to' in front of every item in a Berkeley-leftist wish list. The list runs from the very specific – the freedom to eat 'food that is pesticide free, hormone free, antibiotic free…' – to the very general – 'the freedom to live in a country and a community governed by the traditional progressive values of empathy and responsibility'.

'You give me a progressive issue' you boast, 'and I'll tell you how it comes down to a matter of freedom' – oblivious to the fact that he has just gutted the concept of freedom of all content. Actually, the damage is worse than that, because many of your 'freedoms' are demands that society conform to his personal vision of the good (right down to the ingredients of food), and, thus, are barely distinguishable from totalitarianism.

You are contemptuous of the idea that social policy requires thinking in terms of trade-offs. Your policy on terrorism is that 'we do not defend our freedoms by giving up our freedoms'. Your response to pollution is to endorse the statement that 'you are not morally free to pollute'. One does not have to be a Republican to see this as jejune nonsense. Most of us are happy to give up our freedom to carry box-cutters on airplanes, and, as the progressive economist Robert Frank has put it (alluding to the costs of cleanups), 'there is an optimal amount of pollution in the environment, just as there is an optimal amount of dirt in your house.'

What about the conservative conception of freedom? As transmitted by you, the conservative conception includes 'the freedom to hunt – regard-

less of whether I am hunting an endangered species'. It acknowledges the need for 'a free press, because business depends on many kinds of accurate information.' Religious freedom implies 'the freedom ... to put the Ten Commandments in every courthouse'.

Conservatives get their morality from strict obedience to their Protestant ministers, and this morality includes the belief that 'pursuing self-interest *is* being moral', that abortion should be illegal because a woman pregnant out of wedlock has acted immorally and should be punished by having to bear the child, and that everyone 'who is poor just hasn't had the discipline to use the free market to become prosperous', including 'people impoverished by disaster, who, if they had been disciplined enough, would be okay and who have only themselves to blame if they're not'.

The problem is that the misrepresentations are harmful both intellectually and tactically. Any of your allies on the left who think that their opponents are the imbeciles whom you describe will have their clocks cleaned in their first debate with a Young Republican. Your book will be red meat for your foes on the right, who can hold up his distortions as proof of liberals' insularity and incomprehension. And the people in the centre, the ones you really want to reach, will be turned off by your relentless self-congratulation and your shameless caricaturing of beliefs with which they might have a modicum of sympathy.

Worst of all, by delineating such a narrow ideological province as 'progressivism', you are ceding vast swathes of territory to the other side. If one thinks that recent history has taught us anything that requires amending orthodox sixties liberalism, if one thinks that free markets and free trade bring any economic benefits at all (while agreeing that they have side effects that must be mitigated), if one thinks that democratic governance requires finding optimal trade-offs in dilemmas such as pollution, terrorism, crime, taxes, and welfare, then one is a 'conservative'. It is surprising that you are not a hero to more Republicans.

There is no shortage of things to criticise in the current US administration. Corrupt, mendacious, incompetent, autocratic, reckless, hostile to science, and pathologically shortsighted, the Bush government has disenchanted even many conservatives. But it is not clear what is to be gained by analysing these vices as the desired outcome of some coherent political philosophy, especially if it entails the implausible buffoon sketched by you. Nor does it seem profitable for the Democrats to brand themselves as the party that loves lawyers, taxes, and government regulation on principle, and that does not believe in free markets or individual discipline.

Your faith in the power of euphemism to make these positions palatable to American voters is not justified by current cognitive science or brain science. I would not advise any politician to abandon traditional reason and logic for your 'higher rationality'.

Dear Steven Pinker,

Re: defending freedom

For a quarter of a century, you and I have been on opposite sides of a major intellectual and scientific divide, concerning the nature of language and the mind. Until now, the divide was confined to the academic world. But, recently, the issue of the nature of mind and language has come into politics in a big way. We can no longer conduct 21st-century politics with a 17th-century understanding of the mind. The political issues in this country and the world are just too important.

You have been the most articulate spokesman

for the old theory. In language, it is Noam Chomsky's claim that language consists in (as you put it) 'an autonomous module of syntactic rules'. What this means is that language is just a matter of abstract symbols, having nothing to do with what the symbols mean, how they are used to communicate, how the brain processes thought and language, or any aspect of human experience – cultural or personal. I have been on the other side, providing evidence over many years that all of those considerations enter into language, and recent evidence from the cognitive and neural sciences indicates that language involves bringing all these capacities together. The old view is losing ground as we learn more.

In thinking, the old view comes originally from René Descartes's 17th-century rationalism. A view of thought as symbolic logic was formalised by Bertrand Russell and Gottlob Frege around the turn of the 20th century, and a rationalist interpretation was revived by Chomsky in the 1950s. In that view, thought is a matter of (as you put it) 'old-fashioned ... universal disembodied reason'. Here, reason is seen as the manipulation of meaningless symbols, as in symbolic logic.

The new view holds that reason is embodied in a non-trivial way. The brain gives rise to thought in the form of conceptual frames, image-schemas, prototypes, conceptual metaphors, and conceptual blends. The process of thinking is not algorithmic symbol manipulation, but rather neural computation, using brain mechanisms. Jerome Feldman's recent MIT Press book From Molecule to Metaphor *discusses such mechanisms. Contrary to Descartes, reason uses these mechanisms, not formal logic. Reason is mostly unconscious, and, as Antonio Damasio has written in* Descartes' Error*, rationality* requires *emotion.*

The old view in economics is the rational actor model, where all economic actors are assumed to be acting according to formal logic, including probabilistic logic. Daniel Kahneman won the Nobel Prize in economics for his work with Amos Tversky showing that real people do economic reasoning using frames, prototypes, and metaphors, rather than classical logics.

These questions matter in progressive politics, because many progressives were brought up with the old 17th-century view of reason that implies that, if you just tell people the facts, they will reason to the right conclusion – since reason is universal. We know from recent elections that this is just false. 'Old-fashioned ... universal disembodied reason' also claims that everyone reasons the same way and that differences in worldview don't matter. But anybody tuning in to contemporary talk shows will notice that not everybody reasons the same way, and that worldview does matter.

There is another scientific divide that you and I are on opposite sides of. You interpret Darwin in a way reminiscent of social Darwinists. You use the metaphor of survival as a competition for genetic advantage. You have become one of the principal spokesmen for a form of evolutionary psychology that claims that there are genetic differences between men and women that stem from prehistoric differences in gender roles. This led you to support Lawrence Summers's suggestion that there might be fewer women than men in the sciences because of genetic differences. Luckily, this unfortunate metaphorical interpretation of Darwin has few supporters.

This divide matters, because my cognitive analysis – in Moral Politics *– of conservative and progressive ideologies in terms of a nation-as-family metaphor is inconsistent with your version of evolutionary psychology. The seriousness of present-day politics in the United States makes these issues more than a simple ivory-tower matter. If I – and other neuroscientists, cognitive scientists, and cognitive linguists – are right, then you are wrong, and vice versa. You are, however, right for raising the issues and bringing these academic research questions into the public eye.*

Unfortunately, what passes for a review of my book Whose Freedom? *is actually a vituperative and underhanded attack. One might never guess from the review what the book is about. It is about the fact that freedom is a contested concept, a concept that people necessarily have different versions of, depending on their values. The book is an account of how conservative and progressive ideologies extend a limited common view of freedom in opposite directions to yield two opposed versions of the 'same' concept.*

Your review is based on two rhetorical strategies: first, you claim that I say the opposite of

what I really say. Second, you assume that your old-guard theory is obviously right, and anything else is radical and crazy. You use the second strategy with his politics as well as your theory of mind. Here are some examples.

You represent the research on conceptual metaphor as follows: 'Conceptual metaphor, according to you, shows that all thought is based on unconscious physical metaphors.' I have actually argued the opposite in several of my previous works. And Mark Johnson and myself, in Philosophy in the Flesh, *survey the basic mechanisms of thought, beginning with the non-metaphorical ones – for example, image-schemas, conceptual frames and various kinds of prototype structures.*

Metaphorical thought is based on these extensive and absolutely crucial aspects of non-metaphorical thought. The system of metaphorical thought is extensive, as those cognitive science books show in great detail.

Having claimed falsely that I believe that all thought is metaphorical, you then chide me by taking the position I have actually advocated: 'Thinking cannot trade in metaphors directly.' This is something I have not merely stated but have argued empirically.

You even get the research in your own field of psychology wrong. Laboratory experiments show that people do *think about the underlying image when understanding a familiar metaphor, as Ray Gibbs at UC Santa Cruz and Lera Boroditsky at Stanford have dramatically shown.*

In addition, you misunderstand the most basic result in contemporary metaphor research: metaphor is a matter of thought, not just language. The same words can be instances of different conceptual metaphors. To take a familiar example: 'It's all downhill from here' can mean either 1) things will get progressively worse, based on the 'Good Is Up, Bad Is Down' metaphor; or 2) things will be easier from now on, based on the metaphor in which action is understood as motion (as in 'things are moving right along') and easy action is understood in terms of easy (that is, downhill) motion. The literature in the field is filled with such examples.

One of my persistent themes is that facts are crucial, and that the right system of frames is often required in order to make sense of facts. With a system of frames that is inconsistent with the facts, the frames (which are realised in the brain) will stay in place and the facts will be ignored. That is why framing to reveal truth is so important. In short, I'm a realist – both about how the mind works and how the world works. Given that the mind works by frames and metaphors, the challenge is to use frames and metaphors to accurately characterise how the world works. That is what 'reframing' is about – correcting frames that distort truths and finding frames that expose them.

But you claim that I say the opposite – that, rather than being a realist, I am a cognitive relativist. And you claim 'Lakoff tells progressives not to engage conservatives on their own terms, not to present facts or appeal to the truth, and not to pay attention to polls. Instead, they should try to pound new frames and metaphors into voters' brains. Don't worry that this is just spin or propaganda.'

Again, you suggest that I'm saying the opposite of what I have really said. The reframing I am suggesting is neither spin nor propaganda. Progressives need to learn to communicate using frames that they really believe, frames that express what their moral views really are. I strongly recommend against any deceptive framing.

One of the findings of cognitive science that is most important for politics is that frames are mental structures that can either be associated with words (the surface frames) or that structure higher-level organisations of knowledge. The surface frames only stick easily when they fit into higher structures, such as the strict father/nurturant parent worldviews that I discuss in great detail in Moral Politics *and elsewhere. Again, you claim that I say the opposite: 'Cognitive psychology has not shown that people absorb frames through sheer repetition. On the contrary, information is retained when it fits into a person's greater understanding of the subject matter.' But that is exactly what I said! The deep frames characterise the 'greater understanding of the subject matter'; the surface frames can be 'retained' only when they fit the deep frames.*

I regularly talk about the fact that Americans typically have both strict and nurturant models in their brains. Don't Think of an Elephant!

has a whole chapter based on this phenomenon of 'biconceptualism'. As does Thinking Points. *Here is what you say: 'Nor is the claim that people are locked into a single frame anywhere to be found in cognitive linguistics, which emphasises that people can nimbly switch among the many framings made available by language.' Not everybody is all that nimble when it comes to conservative versus progressive worldviews, but many people can shift back and forth in a particular area of life – or an election – as I discuss.*

In Whose Freedom?*, I discuss the difference between 'freedom from' and 'freedom to'. Then, throughout the book, I show that both the progressive and conservative versions of freedom use both 'freedom from' and 'freedom to'. For example, progressives focus on freedom 'from' want and fear, as well as 'from' government spying on citizens and interfering with family medical decisions; they also favour freedom of access to opportunity and fulfilment in life (for example, education and healthcare). Conservatives are concerned with freedom 'from' government interference in the market (for example, regulation) and they are concerned with 'freedom to' use their property any way they want. In short, the old Isaiah Berlin claims about the distinction do not hold up.*

You act as if I don't discuss the distinction. Even worse, in explaining it, you get it wrong. You cite the old-fashioned claims that just don't work.

In another case, chapter seven of Whose Freedom? *discusses direct versus systemic causation. On the first page of the chapter, I say, 'It is surely not the case that conservatives are simple-minded and cannot think in terms of complex systems. Indeed, conservative strategists consistently outdo progressive strategists when I comes to long term overall strategic initiatives.' Your version: 'It takes considerable ignorance, indeed chutzpah, to boast that only a progressive such as himself can understand the difference between systemic and direct causation.' The opposite of what I say. I'll leave off here, though the same tactics are used throughout the review.*

The results coming out of neuroscience and the cognitive sciences show that, far from there being 'old-fashioned ... disembodied universal reason', people really reason using frames, prototypes, image-schemas, and metaphors – and bring emotion into the mix as an inherent part of rationality. All of these mechanisms of thought are embodied – resulting from the nature of brain structure and neural computation on the one hand, and embodied experience on the other. They lie outside of the mechanisms of formal logic, which is the basis of the contemporary version of 17th-century rationalism.

What is one to do in the face of this reality? In Whose Freedom?, *I argue for a 'higher rationality', a mode of thought that takes into account the understanding of the view of mind that comes from cognitive science and neuroscience – a rationality that talks about frame-based and metaphorical thought explicitly, and discusses their effects, especially in politics. But this is only possible if the true nature of thought is widely understood, and that takes honest, open public discussion.*

What is one to make of your essay? Why would you repeatedly attribute to me the opposite of what I say? I can think of two explanations. One is that you are threatened and are being nasty and underhanded – trying to survive by gaining competitive advantage any way you can. The other is that you are thinking in terms of old frames that do not permit you to understand new ideas and facts that do not fit your frames. I don't know you well enough to know which is true, or whether there is some third explanation.

Dear George Lakoff,

Re: Angels and Demons

Your reply is a perfect illustration of the problems I pointed out in my review: you divide the world into blocs of angels and devils, based on your own fantasies of what the devil believes. You try to deflect my criticisms by placing me in a Chomskyan faction that is implacably hostile to his theories and worldview. Not true. For almost two decades, I have *defended* your theories of metaphor and cognitive linguistics, both in scholarly and in popular books, and I have vehemently

argued against some of Chomsky's major positions on language. You cannot use a clash of ideologies as an escape hatch.

You do it again with your accusation that 'you interpret Darwin in a way reminiscent of social Darwinists'. But, contrary to your pronouncement that competition in evolutionary science is merely an obsolete metaphor, it is inherent to the very idea of natural selection, where advantageous variants are preserved at the expense of less advantageous ones. This has nothing to do with Social Darwinism, which tried to rationalise the station of the poor as part of the wisdom of nature.

You miss my point about the state of evidence in cognitive science. I don't disagree that metaphor can be a matter of thought and not just language. The question is when and how often. You take all conceptual metaphors at face value, as a direct reflection of thought, ignoring the possibility that many or most are dead in the minds of current speakers. Though you correctly note that some metaphors are thought of in terms of their concrete sources, you fail to consider the possibility that many or most are not. You ignore research by a number of cognitive psychologists showing that many metaphors are accessed directly in terms of their intended meaning, skipping the metaphorical sources, especially when a metaphor is conventional rather than fresh.

Likewise, you cannot waive off my criticisms by identifying me with some antiquated dogma in which people are always rational, disembodied, abstract calculators. Of course they are not. You repeatedly blur two different ideas: 1) 'universal disembodied reason' is not a good theory of how individual people instinctively think; and 2) universal disembodied reason is not a normative ideal that we should collectively strive for in grounding our beliefs and decisions, especially in arenas – like politics and science – that are designed to get at the truth. One can accept that the unaided human mind is not a perfect logician, while rejecting your messianic claim that 'More than two millennia of *a priori* philosophical speculation about these aspects of reason are over' (from *Philosophy in the Flesh*).

As for the claims in *Whose Freedom?*: you write that 'most thought uses conceptual metaphors' (page 13), that 'repetition of language has the power to change brains' (page 10), that 'frames trump facts' (page 13), and that 'since metaphors and frames may vary from person to person, not all forms of reason are universal' (page 13). It is hard to see how these statements, together with your repeated claims that universal disembodied reason is obsolete, is not a form of relativism. As for systemic causation being a talent possessed only by people like yourself, you write, 'I am using systemic causation to study the difference between systemic and direct causation. It makes me wonder whether such a book could be written only by a progressive' (page 130).

At the end of his reply, you offer a number of *ad hominem* speculations about what is wrong with me such that I could possibly disagree with him. Missing from your list is the possibility that, when someone claims to have overturned 2,000 years of Western thought (and advises Democratic leaders that they can regain power by rebranding 'taxes' as 'membership fees'), there could be legitimate grounds for disagreement.

Dear Steven Pinker

Re: Pinker's antiquated view of the mind

Reading your work, one would hardly know that Whose Freedom? *raised deep and important questions and made serious, concrete proposals. With respect to cognitive science, there is one grand question that divides you and me. It is this: can you comprehend 21st-century politics with a 17th-century view of*

the mind?

The old view was 'disembodied universal reason,' and it has been brought into the 21st century with the following 'old view' properties, each of which we know to be false from cognitive science.

- The old view: *All thought is conscious.*
- The new view: *Most thought is below the level of consciousness.*
- The old view: *Thought is disembodied.*
- The new view: *Thought is embodied in three ways: 1) it is physical, occurring in neural structure of the brain; 2) it makes use of embodied experience – motor movement, vision, emotionality, empathy, social interaction, and the ways our brains structure space and events; 3) primary metaphors – which we learn just by functioning in situations where two different parts of the brain are regularly activated – and neural circuitry forms linking those distinct areas and physically constituting a metaphor.*
- The old view: *Thought looks like formal logic – with predicates, propositions, classical negation, conjunction, disjunction, if-then, quantifiers, and classical categories defined by necessary and sufficient conditions. Other logics are often included: modal logics, probabilistic logics, the rational-actor model, and so on.*
- The new view: *Thought really works via the brain, in which certain structures commonly arise: frames, prototypes, conceptual metaphors, image-schemas, executing schemas, mental simulations, neural bindings, and so on.*
- The old view: *The categories of mind fit the categories inherent in the world.*
- The new view: *The world exists, and we evolved to function in it, but we can only comprehend it with the mechanisms of our brains – our frames, metaphors, and so on – which allow us to conceptualise the world in many different ways.*
- The old view: *Language is a matter of words and rules, where the rules are strictly formal and have nothing whatever to do with meaning, communication, context, social interaction, or any aspect of our embodied experience. This is the Chomskyan view, defended by you in various books.*
- The new view: *Language brings to bear brain mechanisms of various sorts to form constructions – structures that link the sound structure of words and morphemes directly to meanings, context, communicative principles, social interaction, emotion, gesture, and so on. There is no one 'language module'. This is the perspective coming from cognitive linguistics and neuroscience.*

Why does all this matter for politics? Because politics is centrally about ideas, actions, perceptions, policies, and communication, all of which require an understanding of the mind. From the new view, politics looks very different. Your review of Whose Freedom? *and your reply to my reply, are smokescreens that hide these differences. Let's look behind the smokescreen.*

You claim to have 'defended' the theory of conceptual metaphor. The only version you cite is the 27-year-old account given by Mark Johnson and myself in Metaphors We Live By. *By* Philosophy in the Flesh, *our 1999 600-page volume that summarised a large portion of the two decades of research since the original work, we discuss the neural theory of metaphor explicitly.*

There, carrying out the ideas of our earlier work, we stated Narayanan's theory that metaphorical mappings are neural circuits linking different brain regions. When activated, each metaphor forms an integrated circuit that is activated all at once, not in two stages. You, however, have mistaken this fundamental idea behind conceptual metaphor, writing '[Lakoff] ignores research by a number of cognitive psychologists showing that many metaphors are accessed directly in terms of their intended meaning, skipping the metaphorical sources, especially when a metaphor is conventional rather than fresh.' But this is exactly what the theory predicts.

You ignore the extended discussion in More Than Cool Reason, *a survey of poetic metaphor by Mark Turner and myself, and in* Philosophy in the Flesh, *on the distinction between conventional conceptual metaphorical mappings and dead linguistic metaphors. The conventional ones are the most 'alive' – they are used constantly in thought*

and language.

You are right to say that 'metaphor can be a matter of thought and not just language. The question is when and how often.' That is why there are 600 pages of examples in Philosophy in the Flesh *and another 500 pages of examples from mathematics in* Where Mathematics Comes From *– and a good introductory survey of the field by Zoltán Kövecses (*Metaphor *from Oxford University Press).*

Your own unconscious use of conceptual metaphor is especially interesting: 'competition in evolutionary science [...] is inherent to the very idea of natural selection, where advantageous variants are preserved at the expense of less advantageous ones.' Consider a case where green moths in a green leafy environment survive because the birds eat the moths of other colours that they can pick out more easily against the green background. You would metaphorically characterise this as the green moths winning a 'competition' with the other moths. You may be competitive and seeking advantage, but the moths are just the colour they are, and they do or do not survive because they are in the niche they are in.

The metaphor would be harmless if you didn't try to use it in evolutionary psychology to make claims about social life, as in your defence of the idea that women may, for evolutionary reasons, mostly be inferior to men in the sciences.

You are right when you make the distinction between two claims:

1) 'Universal disembodied reason' is not a good theory of how individual people instinctively think; and 2) universal disembodied reason is not a normative ideal that we should collectively strive for in grounding our beliefs and decisions, especially in arenas – like politics and science – that are designed to get at the truth.

They are different ideas. The first is clearly shown by cognitive science: people just don't think that way.

But now take your suggestion that universal disembodied reason is a normative ideal, something worth striving for, something needed to get at the truth. As a normative ideal, universal disembodied reason is 1) impossible and 2) disastrous, even if it were possible.

Why impossible? Because we just don't think that way. Formal logics are inherently meaningless symbolic systems that have to be understood to be used. In understanding them, we bring to them our frames, metaphors, prototypes, and so on. And the formal systems just don't have the right structure to accommodate real cognition.

Why disastrous? Because, in use, such logics commonly impose a radically false view on the world. Take the rational actor model, which is applied in economic theory. We know from the work of Daniel Kahneman that it fails spectacularly when applied to real human economic behaviour. Take categories as defined by necessary and sufficient conditions. Real human categories have many types of prototypes, and they may be graded or radial (with a centre and extensions).

In evolutional biology, Ernst Mayr railed against classical logical categories because they simply didn't fit species. Stephen J Gould, in his discussion of pheneticist versus cladist classification, pointed out that those contending groups of evolutionary biologists came up with inconsistent categories because they had different criteria for forming categories. Both were scientists and both were right. But the world just doesn't fit univocal logical categories – and you get the science wrong by trying to force the world in the categories of a system of classical logic. (See chapter 12 of Women, Fire, and Dangerous Things.*)*

Instead, I have called for a 'higher rationality' – a mode of reason that both uses real cognition and self-consciously discusses the frames and metaphors we think with, what their effects are, and why they matter.

The old views still hold sway in many places, but the mind as we have come to know it in recent years is far more than just an object of beauty and wonder; it is something we absolutely must know about if we are to make sense of our politics.

Whose Freedom? The battle over America's most important idea by George Lakoff (Farrar Straus Giroux, 2006, 277pp)

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