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Theoretical Contribution

ULTIMATE CAUSATION IN EVOLVED HUMAN POLITICAL PSYCHOLOGY: IMPLICATIONS FOR PUBLIC POLICY

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Abstract
Evolutionary psychology has made enormous progress in understanding how individual and kin selection shape our sexual and family behaviors. In striking contrast, our understanding of the evolution of our uniquely massive scale of social cooperation (kinship-independent; subjectively, the "public" sphere) has been seriously incomplete. We briefly critique theories of human social evolution to identify specific limitations. We then review and expand a specific theory of the evolution of the uniquely human public domain. This theory is coherent and well-supported empirically. Moreover, this theory has the broad predictive fecundity not displayed by earlier, less complete theories. For example, we can predict/account for both individual human novelties (speech, cognitive virtuosity, etc.) and the salient features of the human historical record through the present. We argue that our discipline can now catalyze the long-sought unification of the social and natural sciences. Further, this new theoretical power allows us to understand and address diverse elements of contemporary human welfare with substantially improved clarity. We argue that evolutionary psychology is now robustly positioned to contribute to formulation of potent local and global public policies that can build and sustain a very substantially improved human future. We explore specific examples of such policy implications.

Keywords: Human evolution, coercion, cooperation, conflicts of interest, human uniqueness, kinship-independent cooperation, public policy, war, HIV

Introduction

We will begin by illustrating the incompleteness of earlier approaches to understanding uniquely human social behavior by briefly critiquing several cases that have received some attention. These are chosen because they are perceived as potentially viable theories and, nonetheless, are paradigmatic of the limitations inherent in earlier approaches. Specifically, some evolutionary psychologists assume (implicitly or explicitly) that uniquely human individual properties like cognitive virtuosity, speech, or elaborate ethical psychology can be initial causes (singly or collectively) of the massive

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scale of human social cooperation. We will argue that these approaches confuse cause and effect and, in some cases, unintentionally conflate proximate and ultimate causation. Other investigators have proposed that the *apparent* human capacity to engage in altruistic post-facto punishment (strong reciprocity) drove uniquely massive human social cooperation. We will argue that these approaches are logically incoherent, requiring selection for individually altruistic behavior and, thus, (implicitly or explicitly) invoking dubious group selection effects to drive emergence of uniquely human social cooperation. The limitations of these and other approaches leave us largely bereft of the capacity to contribute realistically to public policy discussions.

The authors have spent the last two decades engaged in an extensive theoretical analysis and re-interpretation of large bodies of empirical evidence directed at understanding the ultimate logic of the uniquely human adaptive trajectory (recently reviewed and documented in Bingham & Souza, 2009). After briefly describing the fundamentals of this approach, we will discuss new progress in understanding how to apply this perspective on evolved human psychology to policy problems arising in several domains with implications for pan-global human welfare.

Defining Good Theory: Challenges and Inadequacies

Fundamentals of Sound Theory

As evolutionary biologists, all of us are aware of the fundamentals of scientific practice. However, in the hurly-burly of competing to do institutionally funded science, some of these principles can become marginalized. It is useful to begin by reminding ourselves.

First, our theories must not merely be logically coherent; their logic must reflect the world as it actually exists. Mathematically rigorous internal consistency is not sufficient to make Ptolemaic astronomy or string theory science. Only their description of the world as it exists (or their failure to do so) can make them science rather than purely artificial exercises in logic/mathematics. We might call this the *verisimilitude* requirement.

Second, of course, our theories must be deliberately constructed so as to be maximally vulnerable to empirical falsification. Because immediate falsification sweeps our efforts from the field, we are all unconsciously tempted to construct theories in ways that make them difficult to falsify. Moreover, we frequently articulate only extremely narrow predictions. Such narrow prediction-testing generally reduces us to selective searching for supporting evidence, rather than what is actually required – broad pursuit of active, decisive falsification. For example, we can easily find empirical evidence supporting wrong theories (Ptolemaic astronomy, say) if we keep our focus sufficiently narrow. We must all work assiduously to avoid this trap. We can call this the *robust falsifiability* requirement.

Third, intimately related to the preceding is the universal property of good theory that we most commonly forget in everyday practice. Specifically, if a theory is sound it will not only account for the empirical evidence that motivated its original design; it will also predict and account for many other phenomena. For example, the orbital mechanical interpretation of the periodic table emerges from the fundamentals of quantum wave mechanics. Also, for example, we have confidence in the Watson-Crick DNA structure not merely because it accounts for the X-ray diffraction data on which it was originally

based, but because it ultimately predicts/accounts for much of modern molecular genetics. We can call this the *fecundity* requirement.

In view of our universal unconscious tendency to apply the first two requirements in inappropriately narrow and self-defensive ways, the fecundity requirement becomes crucial. If a theory initially appears to be verisimilar and to escape decisive falsification, but it does not spin off ever broadening insight – that is, if it is not fecund – we should doubt its value. We argue that most current theories of human uniqueness fail to meet the fecundity requirement.

Why Good Theory of Human Social Evolution is Especially Challenging

It is now widely recognized that behavior is driven and consciously interpreted by proximate psychological devices that are detached from the evolutionary logic (ultimate causation) of these behaviors. For example, we eat because we are non-equilibrium thermodynamic systems; however, this essential behavior is mediated by evolved proximate mechanisms that make us "feel hungry" rather than by our conscious understanding of the Second Law of Thermodynamics. This logical (but presumably adaptive) oddity of behavior control is well known to cause our subjective conscious experience to often actively mislead us about the ultimate causes of our behavior.

Since the mind itself is a proximate device, our interpretation of our social behavior through that mind becomes especially problematic. We argue that, when looking at uniquely human *public* social behavior, there are several components of causation that further increase the potential to confuse our thinking about underlying ultimate adaptive logic.

Specifically, we will propose that the fundamental adaptive feature of human public social behavior is that it occurs in an intensely coercive environment. Moreover, we are adapted to both *contribute* and *respond* to this coercion. Further, this coercion is individually adaptive only when executed conjointly, that is, together with numerous others as a highly coordinated action. Finally, the effect of this coercive environment is to require individuals to pursue self-interest in ways that are confluent with the self-interests of the non-kin others making up this coercive social environment. This requirement, in turn, produces uniquely massive public human social cooperation and evolution of the subjectively powerful cooperative and benevolent pro-social proximate feelings of which we are capable.

The implication of this social logic is that each of us is coercively required (and requires of others) to pursue behaviors that are second or third-best *immediately* self-interested options. It is only our conjoint coercive threat that transforms this self-restraint into the adaptive first choice (in the immediate sense). This constraint, in turn, means that we are adapted to behaviors making us extremely vigilant in monitoring the social actions of others (watching for signs of pursuit of individually first-choice "selfish" behaviors). Likewise we are meticulous in presenting ourselves to coercive others as opting for second-choice (cooperative) behaviors over selfish behaviors. (Equivalently, in the jargon of game theory, we behave as if we monitor for free riding while avoiding the appearance of free riding.) This complicated environment represents the most immediate layer of additional causal complexity in human social behavior.

The second component of causal complexity arises from the requirement for coordination during this uniquely human coercive behavior (below). We must negotiate about and explain our public coercive and cooperative behaviors to one another – in the

complex context above and in real time. Moreover, there is sound theoretical and empirical reason to believe that the *conscious* component of our evolved human psychology is predominantly social in function. That is, the components of our characteristically human proximate psychology (that to which we have direct access) evolved in response to this extraordinarily complex adaptive problem – a problem which includes many essential opportunities to engage in strategic deception of a highly vigilant audience without self-revelation.

In view of this complex causal logic we argue that we must *not* begin our theoretical endeavors with a focus on subjective proximate social experiences. Indeed, theories in this domain that have strong intuitive appeal should be regarded with particular suspicion. Rather, we suggest, we must begin with first principles of ultimate causation in social behavior, working our way to theories that might predict our proximate psychology as an *effect*, but never invoke it as a *cause*.

Some Theories and Their Limitations: the "Grandmother Hypothesis," "Strong Reciprocity," and "Group Selection"

In this section we briefly critique a set of hypotheses for human origins/uniqueness that have received attention in the scientific press. Note that these hypotheses all have some level of subjective intuitive appeal. This appeal, perforce, arises from the connection of these theories to our evolved proximate psychologies, not necessarily from their relationship to ultimate causation.

An illuminating example of an earlier theory that has subjective intuitive appeal is the *grandmother hypothesis* (reviewed in Hawkes, 2010). Its fundamental argument is that early proto-humans evolved a change in life history producing older females who specialized in transmitting cultural information to their descendents. In other words, these grandmothers redirected their parental investment toward grown offspring and their subsequent progeny (grandchildren).

On the strongest version of this hypothesis, human language (improved transmission of cultural information) and brain expansion (improved storage and use of cultural information) can be viewed as knock-on, supporting adaptations to this grandmother-initiated expansion of the cultural information stream. Further supporting this hypothesis is the observation that menopause looks like an evolved life history stage rather than a non-specific effect of aging (Hamilton, 1966; Williams, 1957; reviewed in Hawkes, 2010).

Strassman and Kurapati (2010) have recently argued that empirical studies of extant populations do not provide statistically robust support for improvement of offspring survival by the presence of a surviving grandmother. Though this observation is important and suggestive, we would need substantial additional evidence to decisively falsify the grandmother hypothesis as a cause of human uniqueness. The question, then, is how are we to further evaluate this proposal?

First, the hypothesis has some limited apparent fecundity – it arguably predicts language evolution and brain expansion, as we saw. However, this fecundity is circumscribed. For example, how would the grandmother hypothesis account for the massively expanded human scale of kinship-independent social cooperation? Apparently, it cannot, as the ancestral grandmothers' adaptive behaviors were ostensibly kin selected. In other words, grandmothers do not solve the universal non-kin conflict of interest problem. Moreover, how would the grandmother hypothesis account for other individual

human physical attributes (elite throwing and running, for example)? Finally, how would the grandmother hypothesis account for the conspicuous features of the 2 million year human historical record, from the behaviorally modern human revolution to the rise of the state? Again, apparently, it cannot.

Of course, we could argue that these other human traits and events have other causal sources and we should not expect a theory of human origins to have such broad predictive power. However, a crucial implication of the fecundity requirement is that a theory that *does* have such broad predictive capacity is more likely to be correct than one, like the grandmother hypothesis, that does not.

Second, a more subtle but equally crucial failing of the grandmother hypothesis is that it can be viewed as a restatement of the human origins/uniqueness question – rather than an answer to that question. For example, if we momentarily accept the grandmother hypothesis, our next question becomes, "Why did such potent grandmothers evolve uniquely in the human lineage?" The grandmother hypothesis implicitly presupposes some unknown answer to this question and this answer would represent the theory of human uniqueness we seek. Indeed, the theory of human origins described below is expected to drive the evolution of human grandmothers (and many other adaptations) as a secondary effect.

We chose the grandmother hypothesis here because it is very useful even if it is fundamentally incomplete as a theory of human origins/uniqueness. Moreover, its weaknesses are also paradigmatic of the inadequacies of analogous hypotheses, like the proposal that some novel cognitive or linguistic evolutionary invention catalyzed the new adaptive trajectory of our lineage. Again, all these approaches show sharply limited fecundity and present as restatements of our question rather than as answers.

Another hypothesis for human origins/uniqueness invokes the supposedly unprecedented tendency for humans to engage in "altruistic" post-facto "punishment" (Gintis, 2000). This approach is motivated, in part, by the subjective intuition that we engage in such actions. Moreover, in experiments uncontrolled for the unconscious impact of the large (highly coercive) institutional environments in which they are carried out, humans appear to engage in such altruistic punishment (Fehr & Gachter, 2002). (Note also that the formal anonymity and privacy on which the altruistic interpretation of these experiments is based is adaptively novel, and our evolved proximate psychologies are probably incapable of recognizing them. Thus, these behaviors can be equally well interpreted as misfiring of proximate mechanisms designed to produce the self-interested *conjoint*, *preemptive* public coercive behaviors predicted by the theory we will explore below.)

The most fundamental weakness of this approach is that it requires sustained group selection to form a robust foundation for driving the evolution of uniquely human social behavior. This follows, perforce, from the proposal that punishment is post-facto and altruistic, requiring that the adaptive gain of punishers results from follow-on cooperative behaviors by others that are altruistically incentivized by the punishers. The general weaknesses of group selection theories have long been recognized (Williams, 1966). Moreover, the very specialized population structure required to make group selection theories work apparently is not verisimilar to natural populations (Langergraber et al., 2011). Recent attempts to improve this approach have borrowed some elements from our earlier game theoretical analyses of self-interested social coercion to be described below (Bingham, 1999; Bingham & Souza, 2009; Okada & Bingham, 2008)

without fully addressing these verisimilitude problems (Bowles & Gintis, 2011; Boyd et al., 2010).

This approach also suffers from relatively poor fecundity. How does this model account for the many adaptive transitions in the human historical record, for example? Moreover, this approach suffers from the same explanatory problems as the grandmother hypothesis. We must ask, "Why did altruistic punishment evolve uniquely in the human lineage?"

A third theory of the origins of uniquely human social behavior has been proposed many times. This is the suggestion that our public behavior evolved as an adaptation to warfare (Bowles, 2009; Darwin, 1871; Tooby & Cosmides, 1988, for example). These theories have various problems including assuming doubtful group selection, failing to address the question of why warfare had this effect uniquely in the human lineage, and lack of broad fecundity. For example, we might ask, "How do warfare models account for the behaviorally modern human revolution or the agricultural revolutions?"

In summary, we argue that many theoretical approaches to the fundamental question of human origins/uniqueness have provided important individual pieces of insight, but are inadequate and unlikely to be correct as complete theories.

A Potentially General, Effective Theory of Human Social Behavior: Properties and Policy Implications

Conflicts of Interest, the Fundamental "Force" in the Animal Social World: Human Properties are Economically Interpretable as Results of a Unique Adaptation to this Force

In contrast to the approaches above, our theoretical work deliberately began with potentially ultimate causal origins of uniquely human social behavior. Specifically, it follows from elementary kin selection theory (Hamilton, 1964; Maynard Smith, 1964; Williams & Williams, 1957) that non-kin conspecifics will behave under almost all conditions and circumstances as if they have active conflicts of interest. Moreover, this behavior pattern is expected to be an inherent property of the universal animal adaptation to competitive replication in the inherently Malthusian world of all organisms. Thus, these pandemic conflicts of interest are the central and decisive factor limiting and shaping all social behavior between non-kin individuals at all times (Bingham, 1999, 2000; Bingham & Souza, 2009; Okada & Bingham, 2008). In other words, we cannot understand the social behavior of any animal (including humans) if we do not first understand their adaptation to non-kin conflicts of interest. (We share the view of many that Nowak et al.'s (2010) recent objections to inclusive fitness theory are highly doubtful and we will not consider them further here.)

Extensive investigation led us to the proposal that humans evolved an unprecedented solution to the conflict of interest problem and that this novel solution was likely to have a very particular source (reviewed in Bingham & Souza, 2009). Specifically, we proposed that the original proto-humans evolved access to inexpensive, conjoint, individually self-interested projection of pre-emptive coercive threat – inadvertently from the perspective of its subsequent social effects. This initial acquisition of new coercive capacity was a consequence of the evolution of the uniquely human capability to project coercive threat from a substantial distance (many body diameters

away) resulting, in turn, from our evolution of elite aimed throwing. This capacity for long-distance or remote threat allows large numbers of individuals to exert coercion synchronously, producing, in turn, a very large (exponential) reduction in the individual costs/risks entailed (Bingham & Souza, 2009). Elite human throwing most likely originally evolved (along with socially irrelevant elite running; Bramble & Lieberman, 2004) under individual and kin-selection for improved power-scavenging in the australopith lineage directly ancestral to the first members of Homo (reviewed in Bingham & Souza, 2009).

This new coercive capability immediately created selection for conjoint self-interested projection of threat. This capability, in turn, provided the unprecedented capacity to *cost-effectively* preemptively ostracize would-be free riders, allowing very substantial expansion of kinship-independent cooperative enterprises – evolution of the first Darwinian adaptation to "law enforcement." We have explored the detailed game theory of this novel social adaptation (Bingham & Souza, 2009; Okada & Bingham, 2008). Moreover, the fossil and archaeological record of human origins is extensively consistent with the detailed predictions of this theory (reviewed in Bingham & Souza, 2009).

As this theoretical approach survived initial falsification, we next asked whether it has the broad predictive fecundity that correct theories must display as follows.

First, this approach efficiently predicts the evolution of uniquely human speech, cognitive virtuosity, and ethical/political psychology/behavior. These characteristic human features are all transparently accounted for as either evolved responses to the unprecedented opportunities presented by the scale of human social cooperation (including extensively expanded sharing of culturally transmitted information) or adaptations to generating and responding to self-interested coercive threat on the uniquely human scale (Bingham, 1999, 2000, 2009; Bingham & Souza, 2009).

Second, this theory requires that this fundamental adaptive social strategy will remain central throughout human evolution and history, to the present moment and into the future. This generalization directly implies a theory of human historical change. Specifically, we predicted that all substantial increases in human adaptive sophistication would inevitably have the same underlying, ultimate causal origin – increased scales of uniquely human kinship-independent social cooperation resulting, in turn, from the development of new weapons technologies that allow cost-effective, self-interested coercion on these new scales. This expectation generates numerous detailed, falsifiable predictions about documented historical/archaeological events. These predictions are extensively fulfilled in the records of events like the behaviorally modern human revolution, Neolithic revolutions and the rise of the early and modern states (reviewed in Bingham & Souza, 2009).

Thus, we argue that we now possess a theory of human origins/uniqueness that has the essential features diagnostic of likely correctness. First, the theory is based on simple, ultimate causation (self-interested, conjoint projection of preemptive coercive threat yielding expanded kinship-independent social cooperation and all its adaptive knock-on effects as by-products). Our subjective proximate psychological experiences are never invoked as causes (though they are well accounted for as effects). Second, this ultimate causal process has a potentially clear and specific initiating event; our answer does not represent a mere restatement of the question. Third, our theory has the broad predictive fecundity required of a correct theory, a feature also allowing diverse opportunities throughout the human sciences for potential falsification.

Building on this earlier work, our goal here is to explore specific examples of more recent unpublished progress in understanding how to apply this approach to public policy questions. More generally, our goal is to illustrate the potential for our discipline to play a much more central role in public policy in the future.

The Evolutionary Psychology of Policy

To the extent that current public policy processes accept scientific input, this input is largely channeled through the traditional social sciences. Thus, if evolutionary psychology is to better influence public policy, we must translate our insights for colleagues in these sister disciplines. Of course, success in this translational task is tantamount to the long-sought unification of all the social sciences (and the joining of this unified human science to the natural sciences) – a goal of the highest scientific priority. Moreover, in achieving this unification, our discipline gains much improved access to the massive body of outstanding empirical insight accumulated by the traditional social sciences. Our review below implicitly illustrates this potential for improved capacity to predict many of these earlier empirical insights. Finally, we are also positioned to use improved evolutionary theory to settle long-standing points of contention and confusion within the traditional social sciences.

Earlier attempts to incorporate evolutionary insights into the traditional social sciences have been largely unsatisfactory – in consequence of incomplete theory, we argue. Illustrations of this failure include naïve interpretations of racism/ethnocentrism as kin-selected behavior (Sykora, 1999), for example. Likewise, for example, "behavioral economics" remains largely ineffectual as a result of systematic theoretical errors – including the assumptions that economic behavior can be interpreted without reference to the surrounding conjoint coercive environment (Fehr, 2009, for example) or that a focus on mechanical details of proximate psychological devices (rather than ultimate causation) will adequately explain economic behavior (see, for example, Lee, 2006).

Most debilitating of all is a very general error of causation throughout the traditional social sciences (history, economics, sociology, political science). This fundamental error assumes that beliefs promulgated during public discourse on policy matters have a transparent causal connection to social functioning and change. This is a disabling failure to grasp the proximate/ultimate distinction. To take three of many well-known illustrative examples, it is widely assumed that Marxist ideology was causal of the Bolshevik revolution, that the modern economic miracle resulted from invention of new financial institutions, or that the Arab Spring resulted from the development of new political beliefs. (See Grief, 2006, for one example, a case that also illustrates the valuable empirical contribution this kind of analysis can make, in spite of its theoretical inadequacy.)

In the sections that follow we will illustrate how improved theoretical grasp of the evolutionary logic of public human behavior allows us to discuss the empirical phenomena of the traditional social sciences with confidence and causal clarity. Among other things, we will take a different view of the ultimate function of beliefs and institutions than the traditional social sciences. This interpretive ability corresponds to the capacity to contribute cogently to public policy debates. We have deliberately chosen important, but diverse examples to illustrate the broad scope of sound theory.

Politics and Power: Might, Right, and Their Humanitarian Implications

Understanding that the foundational human adaptive novelty is self-interested, conjoint projection of coercive threat in the public domain requires that the structure of every human society emerges from the distribution of access (ultimate recourse) to the tools of coercion. All other variables are subsidiary. For example, a state with a trained, funded, heavily armed military that is not offset by an adequate ratio of non-elite coercive counter force will inevitably serve the interests of this elite military power and its colluding functionaries. There is an extensive body of historical evidence supporting this prediction (reviewed in Bingham & Souza, 2009). Well-defined cases include authoritarian archaic states (Imperial Rome or Inca Peru, for example) and modern authoritarian states (the Deep South slaveocracy in the 18th and 19th Century U.S., Nazi Germany, Bolshevik Russia, and Imperial Japan, as well as contemporary cases like Zimbabwe, Iran, Syria, and North Korea, for example). Moreover, relentless struggles for the ultimate control of the means of coercion have and will always define the politics of both democratized and authoritarian states alike – whether it plays out as direct collusion with elite military units and the Federal Security Service in contemporary Russia, for example (Lee, 2006), or multifarious competition for control of the policy apparatus of a significantly democratized state like the contemporary U.S. (that apparatus being conjointly empowered by a democratized coercive electorate *and* formal police/military organizations). (See Woodward, 2011, for a recent review of the extensive traditional social sciences literature on conflict and cooperation in the formation and development of the U.S., for example.)

We can restate this vital insight in the terminology of contemporary political science. This restatement, in turn, provides a useful context for discussing crucial details of our political/ethical behavior/psychology in the context of public policy. The *selectorate* (Bueno de Mesquita et al., 2003) controls the functioning of each human society and this selectorate consists of the locus (or colluding loci) of decisive coercive power. Throughout most of human evolutionary history, the tools of coercion (available weapons) were inherently relatively broadly distributed. For example, thrown stones, atlatls, and bows represent technologies that are difficult to bring under monopoly minority control. Thus, the ancestral selectorate is expected to have consisted of a majority of the populace, with oligarchy being inherently unstable (reviewed in Bingham & Souza, 2009), a prediction for which there is substantial empirical support (Johnson & Earle, 2000).

This ancestral causal picture has diverse implications, including for our public political behavior. For example, our ancestors evolved to behave with assertive confidence (experiencing the subjective feeling of being in the "right") when they were members of a concordant majority (thereby, and only thereby, possessing decisive coercive power). Conversely, our ancestors evolved to behave submissively (experiencing the subjective feeling of being in the "wrong") when they found themselves the targets of overwhelming coercive power (as a result of violating the broad, powerfully coercive consensus).

Moreover, because coercive power was only available in the ancestral environment through conjoint projection of threat, humans are exquisitely adapted to forming and acting through functional coercive coalitions – what the vernacular and contemporary social scientists recognize as *interest groups*. Formation of (and action through) interest groups for the purpose of self-interested conjoint projection of coercive

threat is the fundamental, central causal process in the human public domain. Humans pursue self-interest in this way with such unconscious virtuosity that we commonly fail to grasp the ultimate purposes of our behaviors in this quest – analogously to the fashion in which we are oblivious to the processes of combinatorial assembly of phonemes into morphemes into phrases into clauses to generate linguistic meaning. One of our goals in the remaining discussion is to explore how self-interested formation and functioning of/through interest group formation plays out in the contemporary human world – two million years into the novel adaptive trajectory of our lineage.

Given this evolved political/ethical behavior/psychology, the development of technologically sophisticated tools of coercion creates a profound adaptive novelty. These weapons first apparently become decisive with the development of advanced metallurgy near the inception of the historical era (ca. 3500 BCE; reviewed in Bingham & Souza, 2009). Contemporary advanced weapons (gunpowder handguns and artillery, ICBMs/aircraft, WMDs) continue to be the primary coercive factors through the present moment. Unlike the ancestral condition, technologically sophisticated weapons (TSWs) are amenable to monopolistic control by small interest groups, forming coercively dominant minority selectorates.

When such monopolistic control of TSWs arises, elite interest groups will rapidly form and their members will behave (and subjectively feel) as if they are in the right, no matter how extreme their pursuit of narrow elite interest group goals. In turn, individual members of the disempowered majority will seek access to means of coercive counter threat, first and foremost, but will behave submissively until such coercive access can be obtained. Thus, authoritarian states have the potential to be relatively stable (with important exceptions; below).

Authoritarian structure has predictable and important implications for human welfare. Specifically, individuals generally continue to behave in ways that would have served their self-interests in the ancestral social environment. A crucial element of this adaptive behavior pattern is avoiding contributions to interest groups other than one's own. In democratized societies, interest groups generally have to behave with significant respect to majority (coercively enforced) interests. In contrast, in elite-dominated societies, oligarchs will treat non-elite individuals as domesticated animals (limited only by non-elite counterforce; below). Non-elite individuals will respond to this state of affairs by focusing their economic behaviors on the interests of immediate family and small, local (internally democratized) interest groups. Moreover, economic wealth will be preferentially captured by elite interests (through protection racket-like taxation, for example) rather than being reinvested in activities that preferentially benefit the disempowered majority (universal education and infrastructure, for example).

One implication of these patterns of elite and non-elite behavior, in turn, will be substantially reduced per capita economic productivity in authoritarian polities compared to democratized cases. This is, in fact, the empirical observation. For example, the modern economic miracle (reviewed in Bernstein, 2004) and the Scientific Revolution correlate very well in space and time with the democratization of formerly authoritarian early states (reviewed in Bingham & Souza, 2009). Likewise, for example, contemporary authoritarian regimes are either poor (North Korea and Zimbabwe, for example) or parasitically dependent on functioning democratized economies. Examples of such parasitism include selling goods that are not capital or skilled labor-intensive (especially oil or drugs) to functioning democratized economies. Russia, Saudi Arabia, and Taliban Afghanistan are examples. Alternatively, intellectual property piracy and currency

manipulation to sustain economies dependent upon a slavery-like manufacturing sector selling to functioning democratized economies is also workable (at least temporarily; China is the current champion at this strategy; Ferguson & Schumarick, 2009).

POLICY IMPLICATIONS: We can predict the fundamental basis of the functioning of contemporary state economic/political systems. Their long-term, steady state creative capabilities will be strictly limited by the distribution of power – of access to coercive threat. Moreover, we can state with considerable confidence that humane systems require democratization of effective access to coercive threat. All other arguments (about religious belief, economic philosophy, etc.) are superfluous distractions. This fundamental insight moves us substantially toward the capacity to make some clear policy recommendations at both the local and geopolitical scales (below). This clarity, in turn, prevents us from being unproductively distracted by claims that formal constitutional details and institutional legalisms are causal of political/economic change (see Sachs, 2005, for one example among legions of this kind of causal confusion).

The Contemporary Context: The Pan-Global Human Coalition

A crucial feature of the policy environment is the largest extant scale of human public social cooperation. Our theoretical perspective makes a clear prediction about the origin and size of this largest scale of cooperation. Specifically, this largest cooperative unit will be strictly limited and determined by the scale of available coercive technology. The properties of weapons technologies determine the scale at which coercion is cost-effective and individually adaptive. For example, thrown stones do not support individually low cost coercion on the scale of nation-states. It is convenient to call this limit-size social coalition, determined by the properties of available coercive technologies, the *maximum policeable unit* or MPU (Bingham & Souza, 2009).

Throughout most of our evolutionary history, the MPU was probably on the order of several hundred adults. However, with the recent serial invention of improved weapons technology (beginning with the behaviorally modern human revolution and extending through the contemporary era) the MPU repeatedly increased in size (reviewed in Bingham & Souza, 2009).

These weapon technology-dependent increases in MPU size produce two important phenomena. First, the adaptive power of human social cooperation is highly scale dependent. Thus, each increase in social scale produces an adaptive revolution, processes we score in the archaeological/historical record as events like the agricultural revolutions or the rise of the state.

Second, with the development and deployment of TSWs of intercontinental range in the mid-20th century (World War II and the Cold War), human public social cooperation of a fully global scale began to consolidate, as expected. (In brief, the logic of this transition is that conjoint international counterforce is now so cost-effective that no individual nation-state can flout the global consensus without suffering ostracism from the international commercial/financial system. In other words, no individual nation-state [even relatively powerful ones like China or the U.S.] has sufficient coercive threat to extort continued membership in the global economy in the face of a pan-global consensus to the contrary. Countries such as North Korea and Iran are currently experiencing a substantial degree of such ostracism.)

PUBLIC POLICY IMPLICATIONS: For the remainder of the life of our species, our public policy choices will, perforce, always reflect the fact that each of us is situated within a pan-human, pan-global coalition.

These two primary consequences of the development of TSWs to the scale of the human public domain have an especially important secondary consequence. Specifically, the enormous scale of human social cooperation in relatively recent eras (especially the last ca. 10,000 years) has forced individuals to seek and exploit membership in complex, hierarchically nested constellations of interest groups. We are not merely members of local communities with their partially overlapping, horizontally related small interest groups (as our ancient ancestors were). We are also members of enormous interest groups variously constructed, from professional societies, religious denominations, labor unions, or political parties to towns, counties, provinces/states, and countries.

This polyglot, nested interest group environment challenges our ancient evolved minds. Indeed, there are many circumstances in which we are overwhelmed by this adaptively novel interest group scale and complexity. As a result, our political behaviors carry the risk of becoming maladaptive. Nonetheless, our political behaviors will not be unpredictable. We will always seek to maximize our membership in coercively potent interest groups and to influence the policy positions of those interest groups according to our individually self-interested goals. (Note that claims that humans often engage in *altruistic* public social/economic acts [see Fehr & Gintis, 2007, and Haski-Leventhal, 2009, for example] fail to grasp the implications of such acts on our individually adaptive membership in, and influence over, coercively decisive interest groups – an insight long recognized empirically in the traditional social sciences [Olsen, 1965].)

PUBLIC POLICY IMPLICATIONS: All beliefs all individuals espouse or oppose always reflect the functioning of ancestral adaptations to maximization of individual self-interest (inclusive fitness) in the characteristically human coercive interest group environment. In view of this function of our evolved psychologies, all public policy positions (whether advertised as humane or scientific, on the one hand, or historically inevitable or divinely mandated, on the other) should be regarded with equally deep suspicion. Contemporary economic/political beliefs are generally not yet distinguishable from beliefs in the supernatural in their theoretical rigor. Only empirically verifiable impact on local and global human welfare should be admissible evidence in policy debates until our theoretical grasp becomes deeper.

Interest Group Beliefs as Faux Science and Religion

It is particularly important to emphasize the final implication of the section above. As we saw, our conscious political/ethical psychology reflects a small, selective, idiosyncratic facet of our public social behavior. The ultimate origins of these behaviors are mostly hidden from us. Combination of this feature with the (unconscious) pursuit of individual self-interest through our public behavior produces a massive, systemic misunderstanding of cause and effect in public policy debates.

First, for the entire two million years of our uniquely human social trajectory, our ability to pursue self-interest through public policy positions has been limited essentially exclusively by the coercive power of the interest groups we are able to consolidate around those positions. All our public policy pronouncements are produced by an evolved psychology designed to manipulate others to join coalitions whose conjointly enforced rules potentially favor our individual self-interest (inclusive fitness) as much as

possible. Our *apparently* self-sacrificial public behaviors are actually produced by proximate mechanisms designed to fulfill this individually adaptive objective.

Second, in highly democratized coalitions this goal can apparently be pursued in two general ways. On the one hand, we can argue overtly that a policy serves the common good in a transparently adaptive way – improved hunting success, higher per capita GDP, etc. When such policy arguments are subject to rigorous empirical test, they can, indeed, serve the common interest.

PUBLIC POLICY IMPLICATION: As human adaptive sophistication is a product of our unique social strategy, it follows that uniquely human adaptive power flows essentially entirely from public policy debates (*sensu lato*) and implementation of their products *when those debates occur in coercively democratized polities*. (Note that even discussions pursuing scientific fact can be realistically construed as policy debates.)

On the other hand, individuals in a democratized setting can also argue for policy positions on the grounds of externally imposed inevitability. Human adaptive sophistication is not infinite and the surrounding physical environment imposes constraints, a feature our cognitive adaptation to policy discourse will reflect. However, this approach also opens the opportunity for extensive hostile manipulation. Shamanistic/theistic beliefs are potential examples, but of more interest in the contemporary world is the reification of social processes whose novel modern scale renders them obscure. Especially salient is the reification of the "market" in contemporary economic policy discussions (Nelson, 2001).

Third, in elite-dominated local cultures the primary policy goal is to define self-interested consensus among members of the coercively powerful minority selectorate (oligarchs). Mollifying non-elite populations is a useful secondary objective. It follows that all public policy pronouncements tolerated by elite selectorates will be inherently disingenuous from the perspective of the interests of the larger citizenry.

It is noteworthy that the historical inevitability ploy mentioned above is also useful to elite selectorates. This strategy is equally reflected in theistic policy arguments (the irresistible will of god) or secular arguments espousing "scientific Marxism," "national socialism," or "free market capitalism."

PUBLIC POLICY IMPLICATION: It follows from the immediately preceding considerations that conflicts advertised as religious wars (Islam versus Christianity, say) or philosophical wars (Communism versus Capitalism, say) are no such thing. All conflicts result from clashing goals of interest groups. Only the coercively policeable resolution of those clashing adaptive goals can resolve such conflicts. (As we will see below, such conflicts tend to be instigated by elite-dominated polities and there is a universal global solution to them.)

PUBLIC POLICY IMPLICATION: More generally, all policy positions based on supposed historical inevitability (including "laws of nature" like Social Darwinism, the will of supernatural entities, or reification of social processes like markets) should be regarded as inherently malicious, reflecting narrow rather than majority interests. Once again, only empirically verifiable arguments based on the common local and global well-being should be admissible.

Authoritarianism and War

As have seen, cultures dominated by minority selectorates are inherently toxic to the economic well-being of their majority citizenry. Moreover, such authoritarian states also represent a serious geopolitical risk. Specifically, elite selectorates are in a position to privatize the gains from military adventure while socializing the costs and risks to the larger non-elite population. This incentive structure creates an obvious impetus to war.

In contrast, democratized selectorates require broad socialization of both benefits and risks. Under these conditions, war between democratized states with relatively similar military potential is almost never well incentivized.

Consistent with this theoretical expectation, currently available empirical studies support the hypothesis that elite-dominated states have been the primary instigators of international wars (Weart, 1998).

POLICY IMPLICATION: The permanent elimination of the global risk of international war will require the democratization of access to coercive threat in all nation-states. (We will discuss below tactical approaches to this strategic goal.) Note especially that arguments privileging authoritarianism on the grounds of cultural history are merely elite self-justification. Democracy is not a modern or a "Western" invention; rather, it is apparently the ancient human condition, to which all humans are exquisitely adapted.

Conflicts of Interest Within the Modern Democratized State

Conflicts of interest are an inherent, universal property of all human societies. Thus, democratized cultures are (and will always remain) under continuous attack by aspiring elite sub-segments. Indeed, each of us (unconsciously or otherwise) seeks to further our own adaptive goals through our local interest groups (communities, intellectual traditions, professional organizations, institutions, labor unions, businesses, etc.) at the potential eventual expense of the coalition of the whole. Human public "cooperation" emerges and persists only to the extent that our adaptively narcissistic local interest groups are coercively required to pursue self-interest in ways that also serve the coalition of the whole (businesses providing reliable products or professional organizations policing reliable services, for example).

As we have seen, the fundamental challenge presented by the modern democratized state is its massive (adaptively novel) scale. The capacity of contemporary narrow interest groups to misrepresent or hide the implications of their actions becomes non-trivial. Under these conditions, narrow interest groups can pursue anti-social interests in diverse ways – too many to explore here. However, two are of particular interest.

First is to discreetly socialize the costs of a business or technology while privatizing its gains. This is a pervasive and threatening practice, well illustrated by three particularly egregious contemporary examples, the massive carbon footprint of highly profitable hydrocarbon energy industries (Hansen, 2009); privatizing the benefits of selling addictive, toxic foods (high fat, high fructose, etc.) while socializing its risks (health care costs of diabetes, heart disease, cancer; Pollan, 2006); and the socialization of the costs of extreme financial risk taking (in the form of taxpayer subsidized insurance, formal and informal) while privatizing benefits when risky bets pay off (Lewis, 2011; Patterson, 2010; Taibbi, 2010).

Second is to mask the narrow pursuit of self-interest behind the pretense of elite expertise – knowledge and skill sets beyond the comprehension of the majority of the coalition of the whole. This practice is also pervasive, and robust examples of such self-serving pretense (like that of elite financial interest groups) are now well known.

These examples illustrate both the problem of elite aspiration within democratized coalitions and its ultimate solution as follows.

POLICY IMPLICATION: The continued capacity of democratized polities to serve the interests of the coalition of the whole requires relentless monitoring of the behaviors of narrow interest groups. This monitoring requires maximal transparency. Thus, elite capture of the means of monitoring (the press and the knowledge enterprise) represents the greatest threat to the functioning of democratized governance. To date, democratized selectorates have been moderately (if incompletely) successful in enforcing this essential transparency. We can realistically expect that the knowledge enterprise will continue to improve our capabilities in this domain, provided this endeavor continues to be coercively supported by the coalition of the whole. (As we will see below, the information flows implicit in this essential transparency are also directly crucial to maintaining coercive dominance of the majority in democratized polities.)

The Arab Spring: Information, Coercion and the New Coercive Environment for Authoritarian Regimes

The historical record provides extensive empirical support for the prediction that development of TSWs allowed both the expansion of the scale of human coercive management of conflicts of interest as well as the novel opportunity for elite seizure of decisive coercive threat (reviewed in Bingham & Souza, 2009). Two details of this historical process are important here. First, *large scale* TSWs (artillery, aircraft, cruise missiles, nuclear hyper-explosives) can only be built and deployed by large social aggregates. Thus, they are used in pursuit of the self-interests of sizable selectorates. Membership in these selectorates, in turn, is largely determined by effective control of access to *individual* TSWs (gunpowder handguns, primarily, but not exclusively).

Moreover, elite control of individual TSWs allows pursuit of a strong multiplier effect in the adaptively novel context of the massive modern state. Specifically, armed interest groups can use their coercive advantage to seize control of technological means of mass communication (originally the printed word, subsequently radio and TV). This is critically important. Specifically, uniquely human low-cost projection of coercive threat is only available to collections of individuals who act synchronously, who coordinate their coercive gestures in space and time (Bingham, 1999; Bingham & Souza, 2009; Okada & Bingham, 2008). Authoritarian control of the means of mass communication effectively prevents non-elite coordination, further reducing their ability to project credible counter threat against would-be elite interest groups. The keen universal interest paid to control of "propaganda" by authoritarian states reflects empirical awareness of this fundamental property of the coercive context of such states, for example.

Note that non-TSWs (thrown stones, for example) are nonetheless coercively significant if projected by a sufficiently large number of actors. TSWs capable of beating back such massively coordinated non-technological attacks (machine guns, tanks) are difficult to deploy at sufficient densities across the vast landscape of a modern state to maintain effective control of the economic system when the non-elite population is sufficiently mobilized.

Thus, our theoretical picture makes a crucial prediction. If technological means of communication are developed that cannot be controlled by elite interest groups, the capacity to use individual TSWs to multiply effective coercive dominance over non-elite populations will be substantially compromised. Moreover, non-elite pursuit of self-interest should rapidly express itself in coercive acts aimed at exerting control over policy.

The horizontally organized Internet has spawned diverse means for universal communication that are thus far relatively refractory to elite control (e-mail, Facebook, Twitter, and their equivalents). As expected, in the wake of this novel communication/coordination option, newly aggressive popular coercive actions are taking place. The Arab Spring is a particularly well known example. (A Google Image search using term sets like {"Arab Spring" throwing stones} will yield a rich set of examples of people throwing stones at state military representatives, for example.) Moreover, at this writing, such protests are growing in frequency and aggressiveness in China and Russia, as well. There is evidence for corresponding modest, but significant, increases in elite respect of non-elite interests in these polities. Finally, counter-balancing these positive developments, elite selectorates are now engaged in intensive efforts to suppress and control horizontal mass communication.

In contrast to improved communication supporting coercive mobilization, it has been proposed that demographic changes drove the Arab Spring. In particular a recent population surge in Egypt and nearby countries has created a population that is disproportionately young (reviewed in Livi Bacci, 2012). This younger population is economically disaffected and supposed to be sufficient to drive political unrest. However, similar demographic changes several generations earlier in Maoist China (Livi Bacci, 2012), for example, did not result in democratized political movement. Indeed, these population changes were apparently efficiently managed by small political elites through severe authoritarian measures (including the "Cultural Revolution" and subsequent Tiananmen Square massacre; reviewed in Dittmer, 1998, and Barth, 2003, respectively) that are expected to have been more effective before Internet communication technology. Indeed, the more recent beginning of democratization of the Chinese economy (not correlated with youth-biased demographics) is arguably an effect of improved non-elite communication and its coercive consequences.

The casual acceptance of demographic causes of the Arab Spring arguably illustrates the systematic lack of understanding of the decisive causal role of the conflict of interest problem and its coercive management among traditional social scientists.

POLICY IMPLICATIONS: Untrammeled access to the real-time information flow necessary to coordinate conjoint coercive acts will significantly empower the pan-global human selectorate-of-the-whole. Continued development and support of these communication technologies (in the face of relentless elite attempts to suppress them) will be essential to the vital enterprise of continued democratization of the modern state (below). This continued development and support are predicted to occur. Specifically, novel horizontal means of communication are innovations initially and continuously produced by democratized selectorates to insure transparency and access to information against control by their own would-be domestic elites.

The Future of the Pan-Global Human Coalition

The considerations above lead directly to clear identification of specific threats to the human future. Relentless scheming by aspiring elites within democratized states is apparently manageable as long as democratically enforced transparency can be sustained. (In democratized cultures, formal policing power generally serves the common interest. Again, this condition requires a citizenry possessing sufficient coercive power relative to policing agencies such that these professionals are required to act as civil servants rather than as agents of elite intimidation.) However, authoritarian states represent potentially persistent loci both of human misery (dysfunctional economies) and of the threat of international war, as we have seen.

We can understand our risk environment more clearly by examining the context of these problems in the newly emergent, coercively sustainable pan-global human coalition. Specifically, authoritarian selectorates have powerful incentives to collude with aspiring oligarchs within democratized polities in dangerous ways. For example, aspiring elite (criminal) interest groups in the U.S. collude with drug producers (in Afghanistan or Mexico) to profit from a massive import trade in heroin and marijuana. Note that overt large-scale production of illicit drugs is impractical within democratized states and, thus, this drug trade requires an elite-dominated regional or state-level partner.

Further, for example, elite financial interests in the U.S. collude with the military/secret police elite selectorate in China to create the current highly artificial "Chimerica" economic entity (Ferguson & Schularick, 2009).This entity has numerous toxic socialized effects, including on the U.S. electorate (depressed manufacturing wage rates) and the massive Chinese non-elite population (environmental degradation, violent economic dislocation). Moreover, the financial benefits of this arrangement are substantially privatized, including in the hands of Chinese military/party oligarchs and wealthy U.S. investors. Finally, Chimerica is inherently unstable (for example, requiring unsustainable foreign exchange rate manipulation by Chinese oligarchs, see Ferguson & Schularick, 2009). The panoply of social consequences of the ultimate unraveling of this arrangement is difficult to foresee in detail but will certainly be socialized well beyond its wealthy benefactors.

This artificial, elite-enriching Chimerican trade system could never be sustained between two democratized polities (the artificially depressed Chinese wage rates and severe environmental degradation would not be politically sustainable in a democratized polity, for example). Thus, as with the drug trade, this dangerous international behavior requires an elite-dominated regional or state-level partner.

Equally importantly, elite interest groups within democratized countries have strong, near-term incentives to collude with authoritarian selectorates to export authoritarian rule where this is profitable. Moreover, these authoritarian selectorates have strong incentives to make elite financial collusion profitable for aspiring oligarchs within democratized polities.

POLICY IMPLICATIONS: A vast array of specific policy implications emerges from these elements of our theoretical picture, too many to review here. However, several general implications are particularly important as follows.

First, the current global patchwork of democratized and authoritarian polities is unstable. Elite collusion may ultimately capture monopoly control of global TSWs (and of the information channels otherwise allowing conjoint mobilization of non-TSW coercion). Under these conditions the entire pan-global human coalition will become

authoritarian. Alternatively, self-interested democratized polities (and increasingly empowered non-elite populations within authoritarian states) will enforce democratization on all contemporary elite-dominated polities.

Either outcome, global democratization or global authoritarianism, is expected to produce a coercively stable steady condition, a configuration lasting millennia or more into the human future. These two different outcomes have profoundly different implications for global human welfare, one promising and creative, and the other oppressive and impoverished, as we have seen. Thus, the resolution of this global conflict between two differently coercively structured polity sets is, by far, the most important public policy challenge we face.

Second, our improved understanding of the ultimate logic of human public social cooperation focuses our attention on actions required to maintain democratized polities. Maintaining maximal transparency in the press and knowledge enterprises (organs of monitoring and coordination of projection of democratized coercive threat) is vital. Equally important is maintaining coercive balance between the coalition of the whole and formal military/polices agencies. For example, in the U.S., continued robust defense of *habeas corpus* and *posse comitatus* (actually the non-elite coercive counter-balancing of professional policing/military interest groups these doctrines imply) will be important. (Note that subversion of such domestic protections against state police power, when rationalized by "terrorist threat," represents de facto collusion between elite domestic interest groups and aspiring military oligarchs such as al-Qaeda.)

Pursuit of these first two policy requirements would be greatly enriched by intensive professional scholarly investigation of the comparative behavior of American police/military agencies during the current War on Terror and Occupy Movement relative to comparable behavior during the Civil Rights and Anti-Vietnam War movements of the 20th century, for example.

Third, presupposing that currently democratized selectorates are able to defend (and expand) their own domestic coercive control, the remaining challenge is democratization of contemporary overtly authoritarian regimes. The conjoint intercontinental coercive power of relatively democratized polities (U.S., Canada, Europe, Japan, Taiwan, Australia, New Zealand, Brazil, India) substantially exceeds that of overtly authoritarian regimes (Russia, China, and smaller actors such as Iran, Syria, and North Korea).

Thus, the international interest group of democratized polities is in the position to use its coercive advantage to manage the democratic transition in authoritarian polities. By combining the extensive empirical (historical) record we possess and an improved theoretical understanding of the ultimate processes underlying human political behavior, we can define the fundamental features of the trajectory of this process.

Most important is continued support of improved real time horizontal communication (Internet and/or satellite-based at present) among individual members of non-elite populations in authoritarian polities, as we have seen. This condition allows non-elites to maximize their conjoint projection of coercive threat, improving the vital ratio of this threat to the TSW-based coercive power of elite military/police-based interest groups. There is an enormous and continuing opportunity for members of democratized polities to contribute to this vital process by developing and hosting ever-improving communications/social media functionalities – remaining one step ahead of elite attempts to suppress and monitor this essential information flow.

The second crucial element is the use of international coercive ostracism (in the form of economic and technological sanctions) to incentivize authoritarian elite selectorates to gradually surrender their substantial coercive monopoly (primarily by winding down secret police and elite military entities). This strategy requires great patience, but is the only alternative to the extremely high costs of the direct coercive intervention employed previously (in cases like Nazi Germany and Imperial Japan; Ferguson, 2006; Murray & Millet, 2000).

The economic dysfunction of authoritarian states is a crucial advantage in this endeavor. A large segment of the remaining authoritarian interest block (especially Russia, Iran, Saudi Arabia, and Venezuela) depends on revenue from selling oil to the functional democratized economies to fund its elite police/military apparatus and appease its non-elite (more weakly coercive) population. As oil reserves are depleted and alternative energy sources developed over the next several decades, the power of international ostracism will bite much more intensively on these actors. Likewise, long-term solutions to extensive debt accumulation by democratized polities will reduce the capacity of China to engage in the financial actions (extensive holdings of these debt instruments) essential to their systematic foreign exchange rate manipulation, again, rendering these oligarchs much more vulnerable to the threat of global economic sanctions.

The third crucial element of democratization of authoritarian regimes is the judicious use of direct coercive violence. For better and for worse, we are currently engaged in several natural experiments in this facet of the process (in Libya, Iraq, and Afghanistan and to lesser degrees sub-rosa in places like Somalia and the tribal regions of Pakistan). Learning the real causal lessons (and limitations) from these endeavors will be vital to the human future.

PUBLIC POLICY IMPLICATIONS: These essential actions must be focused on the sole policy goal of mediating the transfer of democratized coercive dominance to local populations, *not* coercive imposition of externally conceived institutional details. Only in this way can the diverse tactical steps toward this goal be cost-effective (and, thus, self-interested) for the citizenry of existing democratized polities. Moreover, only this outcome will add new members to the interest block of democratized countries, increasing this block's international coercive dominance.

A serious concern is the extent to which elite interests within relatively democratized polities might be able to control access to information in pursuit of their narrow interests, in spite of the existence of broadly accessible communications technologies (preceding section). Can the global drive toward universal democratization be ultimately defeated from within? The "Citizens United" American Supreme Court decision sharpens our concern here.

As discussed above, we believe we can predict that narrow control of information dispersal is unlikely to be an effective long-term tool for elite manipulation in the face of jealous guarding by democratized selectorates of their prerogatives. Rather, we are more concerned by a related but distinct threat. Humans engage in our unique public social behavior in pursuit of individual self-interest (our subjective feelings of magnanimity notwithstanding). As income inequality is driven higher, more individuals will perceive their personal interests as better served by pandering to elite economic goals, rather than acting to redress inequality. Under these conditions, elements of the electorate will act in ways that are contrary to their long term interests in a democratized economy; however, this may not reflect ignorant provincialism, but rather "playing the odds" (generally

unconsciously) of ultimate elite seizure of the economic system. (Better to be obsequious to the "king" than fight a losing democratic struggle.) This process can potentially create a significantly large anti-democratic interest group. Indeed, elements of the Tea Party movement display features expected of such an interest group.

On this view, income inequality is the largest looming internal threat to existing democratized polities. Again, the tenacity of democratized selectorates in defending their longstanding privileges will probably be decisive and contemporary extreme income inequality will eventually be redressed (primarily through tax code and regulatory reform, in particular) just as earlier historic imbalances were (Hacker & Pierson, 2010). The next several election cycles in the U.S. will be crucial and most informative.

Finally, we return to the question of the role of the ostensibly democratized U.S. selectorate in tolerating (or driving) the Chimerican economic distortion. It is possible to regard this acceptance as naively short-term self-interested behavior. However, we note that there is an alternative interpretation. Specifically, the American dollar is the international reserve currency; the U.S. government can print money essentially at will for the present. As a result, future global disruptions resulting from the inevitable ultimate unraveling of the Chimerican arrangement are more likely to disadvantage others than the American electorate. Thus, the U.S. electorate can be viewed as colluding in this arrangement as an act of calculated self-interest.

Again, however, such locally self-interested/globally damaging choices are open to the partially democratized American selectorate only because of the collusion of Chinese elites. With the ultimate success of global democratization, the capacity of any national selectorate to enrich itself in ways that socialize the resulting risks to the entire global community will be reduced.

Sex and Death: Evolutionary Psychology and Public Health

We have focused thus far on the implications of improving theory in evolutionary psychology for geopolitical policy making. We conclude with a brief example in a very different venue. Our goal in juxtaposing these two distinct policy domains is to illustrate the potentially great range of efficacy of improved theory for all aspects of the human condition.

The capacity of humans to manage conflicts of interest in a highly democratized public (non-kin) social environment allowed our ancient ancestors to evolve an unprecedented breeding system (reviewed in Bingham & Souza, 2009). Specifically, humans engage in social pair-bonding almost universally (*not* unprecedented among animals) but then mate either relatively faithfully under conditions of low adult mortality risk (as in many contemporary mainstream populations) or with high levels of promiscuity under high mortality risk conditions.

Promiscuous mating allows members of both sexes to purchase a kind of life insurance against their likely premature deaths in high risk environments (Bingham & Souza, 2009). The resulting existence of multiple possible fathers (ethnographically called co-fathers; reviewed in Beckerman & Valentine, 2002) for each child provides diversified sources of support in the event of the premature death of either of the nominal social parents, improving probability of juvenile survival. Moreover, males diversify their reproductive efforts by potentially fathering children in multiple pair-bonded households. (Note that promiscuous mating, coupled with cooperative social support of resulting offspring involving non-kin adults, produces intense conflicts of interest. The scope of

such a system is strictly limited by the capacity to coercively manage these conflicts of interest, something only humans can do on a substantial scale.)

The predicted promiscuous mating systems are well-documented ethnographically (see, for example, Beckerman, & Valentine, 2002). Likewise, the complex, ambivalent sexual psychology/behavior of contemporary humans (Buss, 2003) is well accounted for as reflecting proximate support for this contingent mating repertoire.

This ancient evolved psychology/behavior has important implications in the context of the vast (adaptively novel) scale of modern polities. Specifically, powerlessness was an extremely salient mortality risk in the ancestral environment, reflecting impending ostracism from the adaptively vital majority coalition. Thus, in contemporary polities, political/economic marginalization is expected to reflect a (false?) signal of increased mortality risk, thereby driving higher levels of promiscuity. Further, fatal STIs (like HIV) are apparently novel to the large contemporary population (such diseases would presumably have expired through extinction of small local populations in the pre-modern world). As a result, our inherited sexual psychology/behavior did not evolve to recognize this risk component.

These considerations drive an important public health problem. Promiscuity will tend to be more systematically common in politically powerless populations. This behavior, in turn, will make these populations more vulnerable to the invasion and spread of HIV. The resulting HIV-related elevations in death rates will cause an additional increase the perception of mortality risk, driving further increases in promiscuity and resultant infection and death rates – a positive feedback loop, a death spiral.

POLICY IMPLICATIONS: Understanding our evolved mating behaviors changes our perspective on major components of the AIDS pandemic. Important segments of this pandemic can be viewed as the product of two converging factors, a sexually transmitted virus and political inequality. An effective public health policy response must recognize and treat both causes.

Conclusions

We argue for the simple theory that uniquely human evolution and behavior is accounted for as a consequence of a single adaptive novelty, that is, unprecedented access to the inexpensive conjoint coercive threat making consensual management of the non-kin conflict of interest problem adaptive for the first time in an animal. Our unique individual biological properties (language, cognitive virtuosity, for example) are economically accounted for as a consequence. As well, a strong theory of our unique, kinship-independent social cooperation (and, thus, of our history) emerges from this approach. Our ethical/political/economic proximate psychologies are expected to evolve in pursuit of this novel adaptive strategy. The predictive scope of this approach is apparently significantly greater than earlier candidates. This expanded scope, in turn, allows us to enumerate diverse public policy positions with the realistic potential to greatly expand human welfare going forward, including improved domestic economic/political practices and workable approaches to the ultimate goal of humane global democratization. Substantially increased universal access to knowledge and resources are predictable outcomes of this pan-human democratization.

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