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John Michael Meyer

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**Genes, Judgments, and Evolution: The social and political
consequences of distributional and differential conflict.**

**APPROVED BY
SUPERVISING COMMITTEE:**

Supervisor:

Ami Pedahzur

Patrick McDonald

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consequences of distributional and differential conflict.**

by

John Michael Meyer, B. A.

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Dedication

For my mother and father.

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Abstract

Genes, Judgments, and Evolution: The social and political consequences of distributional and differential conflict.

John Michael Meyer, M. A.

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Supervisor: Ami Pedahzur

The following argument offers a sharper micro-foundational lens for studying human political and social behavior by demonstrating how political science might better incorporate the theory of evolution into its behavioral models, and by showing that differential conflict occasionally prevails over the materialist conflicts depicted in much of the modern social science literature. I take evolutionary psychology's understanding of manifest behavior as a point of departure, and then analyze the manifest behavior in terms of judgments, which are binary measurements at a particular point of reference; in other words, a given manifest behavior either did or did not occur at a particular point in time. I then show that judgments can 1) transmit from one individual to the next, 2) vary according to predictable adaptive processes, and 3) are either extinguished or flourish

dependent upon the process of natural selection; judgments, therefore, meet the three requirements of evolutionary theory. Judgments, rather than genes, better describe the process of human political and social evolution, which becomes especially clear when one assesses the consequences of what I term "differential" outcomes in judgments.

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Human Evolution and Conflict

"If we are to create a more humane and peaceful world, we are going to have to reconcile these two truths: to find our common humanity and to accept our differences." -- Sidney Verba, 2011

For my epigraph, I use Verba's well-penned hope, and for my essay, I use an approach called 3C Analysis. My goal is to shine new light on the relationship between politics and evolution. Herein, I wish to conceptually reexamine our common humanity in terms which allow for an easier reconciliation between biology and the social sciences than currently suggested by the various disciplines; in doing so, the intransient nature of our differences cannot only be understood, but appreciated in a more humane way.

The theory of evolution is the parsimonious and true explanation of our common humanity, and the insights from this theory can also help us to understand, if never fully accept, our individual differences. The relationship between evolution and politics is non-trivial and indivisible. To paraphrase Richerson and Boyd, nothing about politics makes sense outside of evolution.¹ Neo-Darwinian evolution allows for a parsimonious lens

¹ Original statement: "Nothing about culture makes sense except in light of evolution" because human beings are a product of evolution, and both culture and politics are natural extensions of humanity's ever-

with which to understand the root causes and ultimate consequences of political behavior. Evolution destroys the supposed teleology of history, insists on micro-foundational mechanics, and demands that one appreciate the weight of history to understand modern behavior. Nevertheless, the present incarnation of evolutionary theory within the social sciences remains painfully Lamarckian outside of biology and psychology (Pinker, 2009, 208-210). Recent efforts to tie specific genes to political and social behaviors are helpful (e.g. Masters, 2001; McDermott, Tingley, Cowden, Frazzeto, & Johnson, 2009) , but can only go so far in a field that is all too aware of the importance of culture and institutions in shaping political outcomes (Lichbach & Zuckerman, 2009). The same difficulty is true for the leaps from evolutionary psychology to the political arena: we know that the political and social environment shapes manifest behavior by acting as an external input, which then combines with internal input to trigger psychological mechanisms housed in the human mind (Buss, 2011; Confer, Easton, Fleischman, Goetz, Lewis, Perilloux, & Buss, 2010). It is the business of evolutionary psychology to understand how the mind operates in this fashion, and it is the business of political science to understand the political and social environment's role as an external input. Political science has, perhaps, a particular burden to explain how the mind attempts to understand coordinated action and institutional constraints, and some work has already attempted to sketch the theoretical landscape of such an understanding (Masters 1989; Masters 1990; Rubin 2003; Sagarin and Taylor 2008; Thayer 2004).

evolving state; culture and politics could not have been sustained over time without conferring some sort of advantage over not having culture and politics (quote from Richerson and Boyd 2005, 252).

In the following paper, I assume that human evolution and evolutionary psychology is true, and then ask a political question: Is conflict, cooperation, or consensus more predominant in human political and social behavior? The combination of these two seemingly distinct subjects allows me to address Verba's interest in understanding both our common humanity and our differences, as well as attempt a degree of conciliation between the theories of biological evolution, evolutionary psychology, and political science.² In the process, I introduce a novel way of thinking about social behavior, which I refer to as 3C Analysis. At the heart of the approach is the use of *judgments* as an evolutionary unit of analysis at specific *points of reference*, each of which represents a possible manifest behavior. I show how judgments can describe manifest behavior in binary terms (either the behavior occurred or did not occur) and then show how judgments relate to one another using the terms *differential consensus*, *differential conflict*, and *differential cooperation*. Moving forward, I find that conflict predominates in human social behavior in regards to the distribution of resources, but that differential consensus predominates in both day to day living and how distributional conflict manifests itself in delineated political and social environments. Far from trivial, I propose that I am offering a novel way of finding our common humanity and accepting the source of our differences. With 3C Analysis and Neo-Darwinian theory, we have a lens with which we which can appreciate the complexity found throughout the field of political science, and yet tether these findings to one of the most fundamental and parsimonious truths of the natural world.

² I borrow the term "conciliation" from E. O. Wilson, 1999.

The development of a holistic theory of evolutionary change in political science requires an analytic perspective that responds to two sorts of conflict: first, it must respect the conflict over resource distributions described throughout the course of political science's long history. Second, it must come to terms with the fact that while distributional conflict represents the "man behind the curtain" for most political outcomes, political actors frequently argue, compete and strive at a more superficial level. In other words, developing an effective theory of evolution that applies to politics requires a method of measuring and interpreting the most superficial activities of politics, because these activities are both the bulk of political activity and the harbingers of future distributional strife.

Neo-Darwinian Evolution: Our Common Humanity

Conflict over resources is a crucial component of life and society, because better access to resources can allow an individual to reproduce more successfully than other individuals. In life on earth, there are several hurdles which lead to differences in reproductive frequencies, including natural selection and sexual selection; a human being's differential reproductive success (ability to navigate the process of selection) depends upon the possession of heritable variants that increase or decrease an individual's chances of surviving and reproducing (Bowles, 2004, 62; Buss, 2011, 6). Heritable variants which grant an individual better access to resources also tend to confer more opportunities for reproductive success. Darwin's Galapagos finches, for example, developed beaks which allowed for better access to the nuts and seeds of the various islands that they inhabited ([1859], 1936). Of course, the finches did not actively *choose* to grow a beak better suited to their environment; over a long period of time, environmental pressures whittled away the survival rates of finches whose beaks were ill suited to gather the food found on their particular island; the finches who survived and reproduced simply had beaks that were better at gathering the seeds found within their immediate environmental context. For the successful finches, having beaks well suited to their particular food source allowed them to invest less time and energy into gathering calories, and expend more time and energy on mating. Thus, finches with higher rates of differential success passed on more copies of their genes.

In part, microeconomics has done much of the work in conciliating politics and evolution, as both feature Malthusian logic concerning population pressure's effects on

competition (Bowles, 59), and microeconomic game theory and neo-Darwinian logic frequently cross paths in an effort to determine the patterns of behavior most likely to succeed in a given environment (Dawkins, [1976] 2006, 39, 69-87; e.g. Axelrod, 1984; Axelrod & Hamilton, 1981). The choice-theoretic reasoning featured in microeconomic analysis helps describe the process of natural selection because any individual that does not conform to the rational, utility-maximizing behavior may not survive when competing against other individuals that conform to the best-path hypothesis suggested by choice-theoretic logic (Tsebelis, 1990, 35-36).

William D. Hamilton expanded the notion of "survival of the fittest" to include a notion of inclusive fitness, which recognized that our genes are not only passed from parents to offspring, but also through other lines of kinship: our brothers and sisters, nieces and nephews can all pass on our genes (1964). From a genes' point of view, the reproductive success of near relatives can almost be as useful as direct reproduction (Dawkins, 88-93). Inclusive fitness helps explain and predict some the most natural tendencies found in humanity, including brotherhood, and the appeal of slogans such as "family first." Inclusive fitness also provides the first steps towards cooperative behavior, patterns which also appear throughout human society. Thus, biological reproduction plays a powerful role in shaping cooperative human behavior. Some studies in political science have attempted direct connections between either human genes or human ecology and political behavior, but these studies are not widespread in the disciplines of

economics, politics, or sociology.³ Truthfully, it is quite possible that such work makes readers uncomfortable. I personally do not yet feel so far removed from sexism, racism, and eugenic policy prescriptions to embrace direct and unmovable ties between genes and behavior; indeed, evolutionary psychology teaches that the root causes of the consequential and violent 20th century expressions of prejudice might be embedded in our implacable natures, and the battles against discrimination will almost certainly need to be fought day after day, generation after generation.⁴ Humanity cannot hope for a final, ultimate victory over such tendencies any more than society can definitively win the battle against, say, sexual promiscuity, bourgeois capitalism, or eating too many salt-bathed potato chips. At the same time, a particular gene is rarely (if ever) a sufficient cause for a particular behavior, especially not a social behavior (Confer et al., 120).

Simply put, we have a common humanity: it is our human nature, and it is neither a blank slate nor engraved in stone. In addition, however, humanity features a complex artificial environment that goes far beyond the expectations of Hamilton's theory of genetic inclusive fitness (e.g. Richerson and Boyd, 35-41). Human society is, in part, a product of our very large (and ostensibly useful) brains. We are a very adaptive species, a powerful mind allows human beings to occupy nearly every environmental niche on the surface of the Earth (129). With the help of a few tools, any given family of humans can

³ McDermott et. al (2009), for example, studies the relationship between a particular gene and higher levels of aggression. Thayer & Hudson (2010) argue that the practice of suicide terrorism cannot occur without intersecting with evolutionary motives; thus, Islamic suicide terrorism requires dominance hierarchy established in a mate-scarce environment, combined with honor and religious-bound norms of violence.

⁴ See Rubin, 2002, 45-46 for the political implications of ethnic conflict from an evolutionary perspective, and see Boyd and Richerson, 2005, 100-101 for a brief discussion of the relationship between cultural conflict and ethnic conflict.

survive in an environment far different from the one in which it was formed. In the course of a lifetime, a human being makes many judgments in order to navigate their social and political environment. As noted, these decisions are, at their heart, somewhat over the distribution of resources. In pursuing an advantageous distribution, human beings have a plethora of mental heuristics with which to cope with their environment. The mental heuristics are design features which help maximize their host's differential reproductive success by navigating through the process of natural selection through deep evolutionary time.⁵

⁵ "The phrase *design features* is standard shorthand in evolutionary biology for attributes or component parts of an adaptation that have been forged or "designed" by a past history of natural selection" (Confer et al., 2010).

Judgments Beyond Genes: Respecting our Differences

John Maynard Keynes once noted that "in the long-run, we are all dead," but it is also helpful to understand that in the short-run, we all lose: no matter how much we learn, how much we plan, how much we sit and think and argue, mistakes are made, and these empirically frequent mistakes simply do not conform for the expectations of game theory; our minds feature no domain-general area of rationality for problem solving based upon contemporary moral and strategic dilemmas, but instead we have pre-programmed evolved psychological mechanisms to play the games of the past using (possibly) outmoded design features (Confer et al., 114-115). As Elinor Ostrom (2007) and many others demonstrate, our emotions, intelligence, psychology, and social context bind our attempts at preference-oriented rationality, thereby preventing rationality's short-term prevalence.⁶ Of course, evolution and environment present problems even for seeming-equilibrium outcomes, for no sooner have we evolved to maximize our utility and chances for success within a particular environment than that environment changes, and behaviors and social institutions that were once reasonably well suited for maximizing our interests now seem hopelessly outdated.⁷ Fortunately, humanity's genetic ancestors evolved into creatures with large, powerful brains which allow us to adapt to a wide range of environments, faster and more efficiently than any other living-thing on Earth (Richerson & Boyd, 2005). Evolutionary psychology teaches that the mind is best suited

⁶ As shown empirically in the work of, e.g., Ariely, 2008; Bowles & Gintis, 2011; Khaneman & Tversky, 1979; Jones, 1999; McDermott, 2004; Weyland, 2002, 2009.

⁷ Maynard & Price, 1973, and Taylor & Johnson, 1978, make use of a helpful term for thinking about a behavior which persists over time: evolutionary stable strategy, or ESS. When more than one ESS persists to coordinate an organisms behavior, Thomas, 1985, calls this an Evolutionary Stable Set, or ES Set. For more on ES Sets, see Balkenborg & Schlag, 2001.

to maximizing the interests of our ancestors, and not ourselves; nevertheless, our own imaginative cognitive powers seem to allow for innovations in nearly any aspect of our lives, and even the manipulation of the genetic stuff from which we emerged, sliding, crawling, living, dying, and reproducing in a process that has taken 3.7 billion years (Buss 2011: 20).

To help account for the nature of social and political change in individual human beings, I boldly suggest a new unit of analysis for thinking about evolutionary processes. The unit, which I term a *judgment*, sidesteps the most immediate causes of a given human action, whether it be cultural, physiological, psychological, or rational, and describes how one human being's judgments relates to another's in an artificially limited social environment. The new unit of analysis maintains a micro-foundational approach by analyzing a particular human being at narrowly defined points of reference, the same way that rational choice arguments typically examine human beings along particular lines of strategic choice.

If judgments are an evolutionary unit of analysis, we should find that they neither remain static through time, nor are reconceived with each generation. I argue that each human being makes his or her own judgments, but that any given judgment is subject to an evolutionary process, just like our genes. An evolutionary process is necessary, because not all actors will make the right decision at the right time at the right place. A behavior that would have passed with flying colors, paid buckets of gold, and provided improved access to mates during the Dark Ages may get you thrown in prison in the 21st century (Pinker, 2011). Getting thrown in prison, I would suggest, is decidedly not a

proven way to gain improved access to mates, or at least not mates with high reproductive value. What causes such a drastic and substantive difference in outcomes across time? The reason for this drastic difference in outcomes is that the psychological tools at our disposal are limited: we carry innate tools that helped our ancestors survive, but might not be so useful now. Our minds do the best job they can with sorting through a mess of internal and external inputs, but it's a difficult task. Human beings also have creative cognitive tendencies to help us, at times, reject the reasoning of others and form our own opinions. This process of new and ever-changing judgments and opinions follows a distinct evolutionary tract: our judgments are not random, but arise from a combination of our biologically-grounded internal inputs, and external inputs from our environment, like culture and politics. It is my view that culture and politics do not evolve in the Darwinian sense, but that our judgments can and do evolve. Crucially, the most successful human judgments frequently, but not always, coincide with higher levels of differential reproduction, thereby increasing the number of offspring for individuals who hold judgments conducive towards successful genetic reproduction.⁸

The word judgment could account for a large number of human activities, but here I simply mean judgment in a very clear and specific sense. A *judgment* forms at a single point of reference expressed by the human conscious or unconscious; the reference point expresses only two possible options: yes, or no. An individual either approves,

⁸ The use of "judgment" as an evolutionary unit of analysis is an attempt on my part to generate an original contribution, but the argument that non-genetic evolutionary processes can effect genetic differential reproduction is not at all original: Bowles & Gintis, 2011; Dawkins [1971] 2006; Gintis 2003; and Boyd and Richerson, 2005 all make similar arguments.

takes, or thinks an action, or he or she does not.⁹ Emotions and rational thought, conscious and unconscious behavior, physical action and verbal argument all may be analyzed as judgments, complex in sum, but analytically valid as binary: yes or no. A judgment is the binary description of manifest behavior, and manifest behavior depends on underlying psychological mechanisms, information processing devices housed in the brain, in conjunction with the external and internal inputs that trigger their activation.¹⁰ I have defined judgments in such a way that the number of possible judgments an individual could make is probably infinite. For example, one could make a judgment as to whether or not judgments are a valid unit of analysis; subsequently, one could make a judgment concerning the accuracy of the judgment concerning the validity of judgments; such thinking, while mildly interesting, is not particularly useful to political analysis. Instead, I would suggest that the frequency of particular judgments falls along a power-law distribution, in which there are a handful of points of reference that occur with extraordinary frequency, a larger number of points which occur with middling frequency, and some number of points which hardly occur at all.¹¹ (I would suggest that the judgments which occur most frequently in day to day life are those best suited to wrestle

⁹ The philosopher Robert Solomon, 2003, inspired my decision to use the term "judgment" within a broader context, and with reduced legal gravitas. Solomon argues that the term "judgment" ought to be applied to describe the variability in human emotional responses to similar stimuli.

¹⁰ I am using the term "manifest behavior" in the same sense that it is used in evolutionary psychology (e.g. Buss 2011.) The difference between judgment and manifest behavior is a difference of analytic degrees: a judgment, in 3C Analysis, should describe a manifest behavior in binary terms, whereas a manifest behavior might be described in broader terms.

¹¹ For a general discussion of power-law distributions and their frequency in nature, see Pinker 2011, 212-214. For a technical review of power-law distributions, see Mitzenmache 2003.

with the needs of differential reproduction of both genes and judgments, such as judgments concerning mate selection and obtaining subsistence.)

Judgments could make an effective unit of analysis in the field of political science. In any social or political problem, a set of judgments constitutes the particular research problem. As an example, I refer to my own empirical work on illicit markets, wherein I seek to understand the conditions in which illicit market participants engage in political violence. To ask the same question within the framework of 3C Analysis, I can ask, "What judgment(s) constitute an illicit market participant's engagement in an act of political violence? And what conditions cause those judgments to occur?" The forces which shape those judgments represent the traditional approaches of political science: culture, institutions, history, and strategic interaction might all contribute to the outcome of any particular judgment, but at the same time, all judgments must pass through the filter of the mind: evolutionary psychology does not determine outcomes in judgment, but it does shape them in meaningful ways, often sharply demarking the limits of what the human mind can determine on its own. Typically, a political problem (and its accompanying solution) consists of a set of judgments, rather than a single judgment in isolation.

In most political studies, the term "evolution" is used more often as a metaphor than as a scientific theory; its usage typically does not depend upon an explicit argument for the three basic requirements of evolutionary processes, each of which must hold for the theory of evolution to apply to a given unit of analysis: the three process are first, replication (sometimes called heredity or transmission), second, variation, and finally,

natural selection (sometimes called differential replication) (Bowles 2004, 61-62). My unit of analysis, the judgment, meets all three of these requirements. In my view, it makes no sense to speak of evolution in terms of complex political abstractions: concepts such as democracy, markets, and war do not evolve over time; instead, the specific manifest behaviors commonly attributed to these abstract concepts are either eliminated, transmitted, or re-imagined.

Natural selection occurs as judgments are weeded out due to their inability to meet the present demands of the environment: the selection process can occur at the level of the judgment, the individual holding the judgment, or the entire group of individuals holding the judgment.

The process of variation in judgments occurs as a result of a number of factors. For the most part, variation in judgments occurs because individuals evolve in different environmental conditions. A judgment concerning the type of clothing one should wear will change depending upon local climate conditions combined with cultural context, as well as a measure of personal taste. Rational-decision making can play a role, but equilibrium outcomes are more likely to model evolutionary outcomes over time, rather than resembling a cognitive, short-term process.

Can judgments be transmitted, and therefore fulfill the third requirement of evolutionary process? If a judgment survives more than one "generation," or goes beyond more than one individual, I suggest that there are four possibilities, only one of which would qualify a judgment as a useful unit of analysis for studying the evolution of human society and politics. First, a judgment might be carried in our genes, and best expressed in

terms of evolutionary psychology.¹² In such an instance, the manifest behavior depends on the underlying psychological mechanism housed in the brain, in conjunction with the internal inputs, including physiological changes brought on through such natural occurrences as aging and exhaustion.

Second, a judgment might be transmitted supra-genetically, and has been neither mutated nor selected out. The transmission process, in this case, might occur due to learning, group pressure, or mimesis. It might occur due to formal or informal methods of education. Crucially, judgments capture such supra-genetic processes. Unlike genetic reproduction, in the case of judgments there is more than one way to transmit the unit of selection. The variability of the exact transmission process is a great strength of certain judgments, for a single judgment, such as choice of religion (or belief in shadows on the wall of a cave), might be brought on through mimesis or coercion. If transmitted as such, it is not only conceivable, but quite likely, that the judgments that survive over time are those that are paired in stable sets that unconsciously pursue their replication, and are simultaneously beneficial to their hosts' capability of genetically reproducing.

¹² In this first transmission process, I refer to manifest behaviors in general, and do not imply a particular subset of behavior; Tooby & Cosmides (1992), however, sound a related note when describing *evoked culture*, which describes an instance in which variance in outcomes depends upon a variance in between-group circumstances. In other words, different environments trigger different "cultural" practices, all of which are based upon the universal architecture of the mind. (Confer et al. [2010] concisely summarize Tooby & Cosmides (1992), and might be of more use for casual readers.) Not all psychologists fully agree with the universalist approach advocated by the evolutionary psychologists (see Nisbett 2003 for inductive psychological test of universalist hypotheses; he ultimately turns against the universalists in favor of a theory of cultural psychology).

Third, a judgment might be a "spandrel," which is to say it represents a byproduct of the first two modes of transmission, and therefore not intentionally passed on.¹³ In genetic evolution, Dawkins points out that our belly buttons are spandrels: they once linked us to our mothers via the umbilical cord, but the belly button is merely debris for any human being beyond the womb. Similarly, a manifest behavior that appears to be a transmitted judgment might be merely a spandrel to judgments that were transmitted from one individual to another.

Finally, a judgment at a particular point of reference might be replicated by two distinct individuals with no relationship, and no true occurrence of transmission. For example, two individuals might separately invent the bow and arrow on two different continents. Even though their judgments are the same, we would be incorrect to assume that one transmitted the judgment to another.

The infusion of evolutionary theory into the discipline of political science should not overturn the last hundred year's worth of advances in the field. If evolution truly encapsulates empirical reality in the fashion I am describing, then the inclusion of a Neo-Darwinian lens and 3C Analysis should sharpen the focus rather than change the picture: the Neo-Darwinian world is already under our fingertips in everything that we research, it merely needs to be called upon to highlight the exact nature of our common humanity, and the predicted form of our differences. Keeping a hold of evolutionary theory can

¹³ Gould and Lewonti coined the term spandrel in their 1979 paper. They meant the term as a pejorative against what they perceived as tendency among evolutionary biologists to label any given trait or characteristic an adaptation, rather than as an unintended consequence of evolution.

ground the ultimate explanations of political science in parsimonious terms, even if the outcomes are quite complex and intricate.

In using judgment as a unit of analysis, I am bypassing some very popular and attractive candidates for measuring and describing supra-genetic evolution. I should explain why I am avoiding these alternatives. Before even describing the first of these, however, I must note that the most impressive failing is their relative uselessness to the study of politics. The following approaches have made interesting and productive advances to their respective fields, but there is far too great a leap between their descriptions of evolutionary processes, and the living, breathing world of human society that is of interest to political science. Still, it is essential to review these alternatives because the field is both quite divided and quite large, and in my own process of generation and research I may have neglected a suitable dance partner; briefly describing the alternatives may help others correct my thinking.

Perhaps the most commercially popular candidate is the meme, a term which Richard Dawkins coined as a co-evolutionary partner for the gene, and a play on the term *mimesis*, which means imitation or mimicry ([1976] 2006, 189-201). Memes, in Dawkin's view, are discrete replicators, which means they constitute distinct bits of information which are capable of being copied. Just like genes, all memes are subject to the three requirements of Neo-Darwinian evolution. Memes are copied from one individual to the next through a process of learning; memes vary through both mistakes and intentional improvisation; memes, finally, suffer the slings and arrows (as well the blessings) of natural selection dependent upon their suitability for the current environment. Distin

(2005) tried to flesh out some of the mechanisms of memetic evolution, while other scholars, such as Blackmore (1999) or Dennett (1995; 1999) argue for memetic evolution at a more substantive level, and applicable in day to day life and technological change. The popularity of "internet memes" notwithstanding, however, the concept of memes has not taken hold as a unit of analysis for researchers interested in evolutionary processes. Richerson and Boyd argue that the concept of memes introduces a false similarity between genes and culture. In their view, theories of cultural evolution should not necessarily aim for the micro-level, but instead should emphasize the pattern and shape of cultural coherence (2005: 80-93). In doing so, they seem inclined to categorize groups of cultural rules, and then to model the spread or destruction of these cultural rules depending upon their own tendencies and the environment in which they are found.¹⁴ It seems difficult to determine how much the cultural evolution of Boyd and Richerson ontologically differs from that of Richard Dawkins, though the models of social change and persistence provide valuable insights into small group conformity, non-genetic changes in organizational efficiencies, group conformity, and much more.¹⁵ The economists Bowles and Gintis have taken the lead in a similar project, though their interest in supra-genetic evolution seems rooted in generating a more accurate theory of human decision making for economic problems (2006). In doing so, they helpfully suggest several new concepts that are of use to economists and political scientists, such as

¹⁴ Boyd and Richerson define culture as follows: "Culture is information capable of affecting individuals' behavior that they acquire from other members of their species by teaching, imitation, and other forms of social transmission" (2005, 6).

¹⁵ See also Richerson and Boyd 1999.

the existence of social preferences rather than the preferences expected of a *homo economicus*. Gintis refers to the process of natural selection as differential replication, a useful term in light of the manifold ways in which a replicator can spread (2004: 61-62). He further describes the many paths through which actors transmit cultural traits, many of which can easily be adopted to the judgments of 3C Analysis.

Boyd and Richerson, as well the economists Bowles and Gintis, come under attack from Steven Pinker, who wants to emphasize the importance of the evolutionary and natural basis for human cognition and adaptive mental heuristics, and shies away from the notion of culture and cultural rules as a unit of analysis ([1997] 2009, 208-210). I agree with Pinker, but at the same time the existence of judgments is too self-evident to avoid its use in the study of politics, where behavior manifests itself all too frequently in ways that knock against the expectations of a purely biological perspective. Cultural rules and genetic behavior are too divorced in the thinking of Boyd and Richerson, as well as Bowles and Gintis. I argue that cultural rules are not only in tension with biological tendencies, but in a constant play within a single judgment; the external and internal inputs to any given manifest behavior are additive in nature.

I think there is something else problematic about arguing that theories of supra-genetic evolutionary units are distinct from evolutionary psychology. The difficulty, it seems to me, is that cultural rules are not falsifiable. If the manifest behavior they supposedly produce and adjudicate can occur without the cultural rule, then we cannot ever be sure that the cultural rule is at work rather than a completely different sufficient cause. The concept of judgments, on the other hand, is falsifiable. Recall that a judgment

is unit of analysis for manifest behavior. Further, recall that the literature in both biology and political science suggests that the pursuit of resources of one kind or another are the fundamental cause of manifest behavior. I am arguing that any given manifest behavior is also conditioned by other manifest outcomes within a given environment: opposing judgments generate different outcomes, *ceteris paribus*. If I am wrong, then judgments are not a good tool for analyzing human social behavior. To put it another way, if judgments do not have an impact on one another when all else is held constant, then judgments are completely spurious to describing outcomes in manifest behavior. In the remainder of this essay, I first offer a handful of terms for describing the relationship of one outcome in judgment to another, and then I tackle the issue of whether or not these relationships might have any effect on manifest behavior, and how that might be the case.

The science of politics seeks to understand coordinated behavior. A natural question for a political scientist to ask is how to describe the relationship of one judgment to another. I begin with what I call differential consensus, and then look at differential conflict and differential cooperation. Based on my definition of judgment, plus my definitions of differential consensus, conflict, and cooperation, I then infer that differential consensus is more predominant in human behavior than any other sort of relationship.¹⁶ All of these terms are components of 3C Analysis, which describes the

¹⁶ A visual representations of 3C Analysis superficially resembles Georg Simmel's analysis of relationship patterns in small groups, but in 3C, the true unit of analysis is not a complete individual, but rather a point of reference within that individual, and thus the visualized graph represents the binary outcomes in judgments for all of the individuals in a given environment. In contrast, see Simmel [1902]1950, 87-107. Simmel's text does not literally graph the dyadic and triadic relationships described therein; for a visualization of the basic patterns, see Macionis 2005, 168-169. Simmel emphasizes that manifest behavior

relationships among judgments. With each term, I am fundamentally reinterpreting how individuals relate to one another, and so it behooves me to emphasize how these terms depart from their conventional usage, particularly in the broader political science literatures. With each term, I define its precise meaning in 3C Analysis, and then contrast it with its significant forbearers.

DIFFERENTIAL CONSENSUS

The first environment I am imagining consists of at least two individuals, each of whom holds the same judgment at a given point of reference for manifest behavior. The unanimous similarities in judgment provide a definition for *differential consensus*. The term differential consensus does not mean that there is no conflict or tension between two individuals, because the unit of analysis is the judgment, rather than the individual.

Differential consensus simply means that the judgments of the two individuals are in agreement at a single, narrowly defined point of reference. The decision-making process of the two individuals might be completely different, but 3C Analysis does not take this into consideration. Perhaps the first individual's judgment is the sort of rational cognition best described through rational choice, and perhaps the other individual's judgment is an emotional outcome.

My use of the word "consensus" differs somewhat from other uses of the word. I narrowly use the phrase differential consensus to describe a particular state of judgments within a very limited environment, whereas consensus usually implies a political outcome

of an individual or group is dependent upon who is in the group, and the qualitative characteristics of norms and customs.

dependent upon a social contract, cultural rules, or as a technical term to describe a type of democracy. Whereas McClosky defines consensus as shared beliefs and values (quantifiable using survey methods (1964, 363)), I use the phrase differential consensus to describe all manifest behaviors in which all the actors within a given environment are in agreement; this is not quite the same thing, because not all manifest behaviors have the backing of a shared belief or value. As an example, it is possible to have an environment in which two individuals both share a belief that smoking is bad for you, but one of the individuals smokes anyway. Here we have judgments at two points of reference: the first pair of judgments consists of the belief that that smoking is bad, and the second set of judgments is the manifest behavior of smoking. In the first set of judgments, we find differential consensus, but in the second instance there is no consensus. Differential consensus, then, is a more subtle way of looking at the world than offered through McClosky's method.

Most references to consensus include language akin to McClosky's procedural minimum definition, but occasionally include an emphasis on solidarity. Hobbes and Rousseau, for example, both pursue social contracts that mitigate conflict. Hobbes' system requires a Leviathan-like tyrant to imprint its will on all individuals within a given state, thereby preventing the conflict and disharmony that naturally occurs in man due to competition, fear, and glory seeking (1994, 76). The Leviathan can impose consensus to avoid ideological disagreements (Abizadeh 2011, 304-305; Tuck 1989; Wolin 2006, 230-245). In Rousseau's system, citizens collectively determine their values through the general will, which is a nationalistic giving-over of one's self to the needs of society in

the pursuit of the common good. In modern political science, traces of consensus are found in modernization theory, as well as approaches that emphasize shared cultural values. From Lerner (1958) to Inglehart and Welzel (2005), consensus at specific value judgments can occur, and the outcomes of those judgments are dependent upon a rise in income levels that fundamentally shifts human preferences. Culturalism, on the other hand, suggests that cultural norms mediate uncertainty, which may provide a degree of consensus (Ross 2009). Lijphart uses the term "consensus democracy" to describe proportional, highly-inclusive political systems with coalition building in the executive and legislative branches (1984; 2004).

Differential consensus is much narrower than any of these higher-order uses of the term consensus; at the same time, my term's caution and specificity heralds an opportunity for better empirical work on the concept of consensus in political and social life. I will show how frequently I think we can expect differential consensus to occur as a part of the human experience after defining differential conflict and differential cooperation.

DIFFERENTIAL CONFLICT

A moment ago, I mentioned an imaginary case wherein two individuals are in consensus in their belief that smoking is bad for you. Nevertheless, contrary to the expressed beliefs, one of the individuals smoked anyway. The actual decision to smoke a cigarette might be partly rational, or it might come from a cultural expectation or a physiological obligation. For the purposes of 3C Analysis, the cause of the judgment is not immediately relevant. In this instance, I wish to describe the situation in which two

judgments are dissimilar. Clearly, if the two judgments are polar opposites in manifest outcome, I cannot continue to refer to the state as consensus. I would argue that the two judgments, each of which is the manifest outcome of a separate individual, are in conflict with one another. If two judgments within a given environment are dissimilar in outcome at a single point of reference, they are termed *differential conflict*. As with my use of the term *differential consensus*, my use of the technical term differential conflict only imperfectly resembles the way the term conflict appears in much of the social science literature.

Thomas Hobbes makes no use of the term, but his descriptions of nature and society without a social contract seem to readily lend themselves to the concept of conflict. In Hobbes' depiction of humanity, all individuals naturally pursue the ends of their desires, and in the pursuit of their self-interest they fall into conflict with others. In the competition for scarce resources, anarchy must prevail without an enforceable social contract; for Hobbes, the state of nature is a state of conflict. Hobbes' argument maintains an influential and powerful position within the field of political science, particularly in the study of international relations (Wagner, 2007). Marx, however, offers a concept of conflict which continues to influence a broad range of studies, including theories of State (Carnoy, 1984; Gramsci, 1988) and economic dependency in international systems (Cardoso, 2009). Marx, contra Hobbes, argues that the organization of society generates conflict rather than reducing it. In Marxist literature, conflict is ever-present due to the commodification of human beings into distinct economic roles, thereby re-enforcing patterns of narrow self-interest at the expense of the proletariat, and repressing a natural

human potential for consensus politics (Marx, [1848] 1978). Both Hobbesian and Marxist conflict, however, appear over the distributional outcomes of scarce resources. There are good evolutionary reasons for conflict to appear over such distributions. Resources are an essential if an organism is going to survive long enough to pass on his or her genes to their offspring. Evolutionary psychology holds that the same instincts and embedded mechanisms which lead to successful reproduction play out in the daily lives of human beings, not occasionally, but constantly, so that no part of manifest behavior can occur without being pulled through the filters crafted in the deep evolutionary time. As such, it makes some sense to develop hypotheses concerning human behavior as if humans are perpetually trapped in a competitive strategic environment. Game theory's strong purchase in the fields of biological evolution, economics, and political science is due largely to its ability to effectively predict the actions of self-interested individual agents operating in environments of limited resources.¹⁷

I argue, nevertheless, that even if the natural world demands distributional conflict in the long-run, the short-run might be governed through conflicts that do not immediately have to do with resources. 3C Analysis, in conjunction with game theory, can describe the outcomes of distributional conflict, but its strength lies in describing the conflicts that occur at points of reference which seem shallow from the perspective of evolutionary economics. Differential outcomes in manifest behavior, including ideas and values, can directly impact subsequent human behavior. More generally, they are a crucial component of human social activity, and profoundly shape our perception of the

¹⁷ See Levi, 2009 for a review of rational choice insights into comparative political behavior.

world. Variation among judgments between separate individuals provides a critical component in the evolution of society and politics; the differences that occur between individuals are essential for testing the waters of the environment, allowing individuals to discover whether or not a particular behavior is suitable for a particular environment. Differential conflict best describes the situation in which two individuals hold different judgments at the same point of reference, and provides a powerful building block for appreciating the differences between individual human beings, even as these differences are the product of a common evolutionary heritage.

DIFFERENTIAL COOPERATION

Differential consensus and differential conflict form the first two descriptive building blocks of 3C Analysis. The third and final term is *differential cooperation*, which occurs when at least two individuals make the same judgment at a point of reference, but at least one actor makes a different judgment at the same point of reference. In 3C Analysis, the occurrence of differential cooperation with a given environment depends upon the existence of differential conflict within that same environment by definition; if all of the individuals are in agreement at a given point of reference, then the judgments are in a state of differential consensus rather than cooperation. Furthermore, given the binary nature of judgments, any environment featuring dissimilarity at a point of reference at and least three actors will include differential cooperation.

The term differential cooperation is quite distinct from the way cooperation is used elsewhere in the social science literature. Boyd and Richerson "use the word

cooperation to mean costly behavior performed by one individual that increases the payoff of others" (2009, 3283). Their definition of cooperation appears in similar form in Bowles and Gintis (2011) and Ostrom (2006), whose studies critique Olson (1971) and others for underestimating the human capacity for cooperative behavior.

Differential cooperation, on the other hand, does not describe payoffs, but instead emphasizes the importance of similarities and differences in behavioral outcomes.

The Predominance of Differential Conflict or Cooperation

The evolution of human judgments and the analytic tool of 3C Analysis allow political science to change the filter at the end of its analytic camera. In my view, political science currently has a red filter over almost all analysis. When a photographer uses a red filter, it blocks all of the light reflecting off of the subject *except* for the light which is red. The resulting photograph, if printed in grayscale, shows a high level of contrast, but is not necessarily a realistic depiction of the world. At present, the analysis of resource conflict dominates political science, a trend that began at least with Hobbes, and continues through to the present day. The benefits of a high contrast, red filtered understanding of resource conflict are quite clear: if resources play a major role in determining evolutionary outcomes for genes and judgments, then an analysis of conflict over said resources should help us understand many political outcomes. A red filtered outlook, however, rejects much of the light which reflects off the political world, and a failure to understand differential outcomes impedes a more accurate analysis. Deep rooted conflicts over resources, such as proletariat and capitalist conflict, might appear benign due to high levels of differential cooperation and consensus.

Part of conflict's salience in political science stems from its efficacy as a concept. The simplicity of the concept of resource conflict lends itself to Pzerworski and Teune's call for parsimony when generating political theory (1982, 22). Additionally, the Pzerworski and Teune stress that "the general statements that serve as premises in an explanation... must have certain logical properties... these statements must be empirically interpretable" (20). I argue that statements concerning open political conflict,

particularly war or elections, may assist a researcher in developing premises that are empirically interpretable since these conflicts are well documented as critically important current events and, later, historical events. Since resource conflict can occur at multiple levels, it has a conceptual appeal for micro, macro, idiographic, and nomothetic approaches. In contrast, the friendlier concepts of consensus, cooperation, and integration are not as easy to get a handle on, and these events may be slower to develop and difficult to describe.

At first glance, 3C Analysis seems to support the predominance of conflict in political behavior. When looking at small groups featuring differential outcomes at a given point of reference, differential conflict seems to predominate. Recall that the definitions of differential conflict and cooperation attempt to describe relationships among individuals at specific points of judgment; there are a number of interesting patterns that follow from these basic definitions, two of which I will briefly describe. The definition of differential conflict included an environment in which two individuals shared a the same judgment at a particular point of reference, and a third individual differed from the first two. If I count the line segments labeled differential conflict, I find two, whereas there is only one segment of differential cooperation. If I add another individual such that there are two pairs of individuals with similar judgments, I find that there are now two segments of differential cooperation, and four segments of differential conflict. The pattern is interesting because it suggests a greater amount of differential conflict than cooperation, despite the fact that the two sides are even in number. The model's pattern holds as long as the number of individuals increases and the sides remain

even, such that the difference between the value of differential conflict and differential cooperation is equal to the number of individuals in the given environment divided by two. If, for example, there are five individuals holding a given judgment at a particular point of reference, and there are five other individuals holding the opposite judgment, then at that point of reference the level of differential conflict is 25 and the level of differential cooperation is 20.

In order to model a higher level of differential cooperation than differential conflict, the model requires at least four individuals holding the same judgment at a given point of reference, and no more than one individual holding the opposite judgment. In this example, there are four segments of differential conflict, and six segments of cooperation. Differential cooperation, then, can only predominate over differential conflict when there is a relatively large majority.

Except in extreme and perhaps even unrealistic circumstances, individuals face an unlimited number of points of reference along which they can differ or be the same. A cursory look at any society reveals a world in which individuals in the same environment tend to have far more points of reference in common than they do different. A comparison between a Sophist and Socrates, for example, would reveal a level of differential conflict far lower than expected, as both eat and drink the same foods, live in the same city, think of the same gods, and question the meaning of justice, with relatively minor variation among individuals, at least in terms of proportion of points of reference. On the whole, differential consensus seems more predominant (at most points of reference) than differential conflict or cooperation in most environments.

Consensus dominates the differential relationship between most individuals, but it is likely that some level of differential conflict is unavoidable, and even preferable (from an evolutionary perspective) to complete consensus. A predisposition towards a certain amount of differential conflict might encourage individuals to seek new and advantageous behaviors that might enhance their success within a given environment. The exact level of differential conflict that an individual organism prefers might be dependent upon a number of factors, including gender or other physiological attributes. Adolescence and generational change, for example, seem to perpetually breed a sort of rebellion. I am not here suggesting a full theory of evolutionary bias towards spontaneous differential conflict, but I think the idea does present a challenge to the sort of political and teleological consensus suggested by Marxism, modernization theory, and even advocates of democratic and capitalist norms. Once a norm were universally established, it surely would not take long for differential conflict to reappear and reject the present "universal truths." A lasting differential consensus is, perhaps, not possible. Even if the notion of ideological consensus is desirable from a normative perspective, such a lack of diversity cannot be any better for judgments than it is for genes, where the absence of biodiversity imperils the continuance of life in periods of environmental stress (Wilson & Frances 1988). Indeed, recognizing the diversity of political constructions, paths, and institutional outcomes implied by the evolution of genes and judgments shines light on Verba's suggestion of a common humanity with serious differences. Dryzek and Schlosberg concur (1995, 142), noting that Bernstein's (1983) call for an approach beyond "objectivism and relativism" is answered by the Darwinian suggestion of a vast

number of paths open for the potential change and development in both politics and culture.

Spurious to Explanation, or Sharper Image?

Differential conflict, differential cooperation, and differential consensus might be spurious to any true explanation of human social behavior. A good question at this stage is whether or not judgments have any influence upon one another. They might not, especially given that the outcome of any given judgment might be completely dependent upon either internal or external inputs, such as physiological shifts, or a change in the proffered incentive structure. I cannot offer what I consider conclusive proof of differential conflict and cooperation in the remainder of this essay. Instead, I lean on an age-old political metaphor to add color to my highly abstract argument, and I point towards other literatures which offer some signs of differential conflict, cooperation, and consensus.

In an attempt to support the hypothesis that judgments influence one another, and therefore might make a true and useful unit of analysis for evolutionary theory, I ask that we leap into Plato's cave, a brief but important allegory from Book VII of the *Republic*. The allegory of the cave, for my purposes, demonstrates that it is not unreasonable to believe that conflict can occur over differences, and not just resource distributions. I do not view this as an appeal to authority, but as an appeal to common sense (though certainly not conventional wisdom). In Plato's cave, conflict occurs when an exogenous force changes a judgment of one prisoner amongst many, which leads to a level of tension and conflict best described as differential conflict.

Plato tells the allegory of the cave using the voice of Socrates, who is attempting to explain the nature of education. Education, in Socrates' view, is neither easy nor

especially common, for human knowledge is often corrupted through manmade distortions. To illustrate the difficulty, Socrates describes a cave in which a number of prisoners are bound by both the neck and foot, such that they cannot turn about whatsoever. Instead, the prisoners in the cave are forced to stare straight ahead, gazing at a series of artifacts, puppets, and shadow puppets. The prisoners face the shadows, and they judge that the shadows are not merely representations of reality, but are in fact true; the prisoners, Socrates says, have no other recourse to discover how the shadows are cast. One of the prisoners, however, is suddenly dragged out of the cave and forced to look at the world in the light of the sun. The sun hurts the prisoner's eyes at first, but his eyes adjust. Socrates suggests that "at first he'd most easily make out the shadows; and after that the phantoms of the human beings and the other things in water; and later, the things themselves" (516a). Socrates then argues that if the man returned to the cave, and met again with his fellow prisoners, the return trip would not be pleasant, but must end in disagreement and the threat of violence. The philosopher asks, "If [the prisoner] once more had to compete with those perpetual prisoners in forming judgments about those shadows while his vision was still dim... And if they were somehow able to get their hands on and kill the man who attempts to release and lead up, wouldn't they kill him?" Socrates' companion succinctly replies, "No doubt about it" (517a).

What is it that occurs in this allegory? Plato introduces a set of individuals, and assigns them a particular judgment: the shadows *are* reality. Plato then takes one of the individuals, and changes his judgment: for this one person, the shadows are no longer reality. Plato uses the allegory of the cave in an attempt to illustrate the possibility of

sublime education, the elite and rare nature of its acquisition, and the impossibility of bringing full enlightenment to the many prisoners who remain in the cave, trapped by their own judgment and limited faculties (Bloom 1991, 403). In this essay, I use the allegory for meaner matter, as I merely try to illustrate Plato's allegory using 3C Analysis. I am not attempting to capture the allegory's full meaning, but simply to assess whether or not the values and judgments of one individual matter to any other, and can have any impact on social or political life.

For the purpose of being explicit, allow me to imagine that there are five prisoners at the beginning of the allegory. The five prisoners are in consensus at a given point of reference, namely on the authenticity of the shadows. Once one of the prisoners changes his judgment, the 3C result is four segments of differential conflict, and six segments of differential cooperation. Socrates then suggests that the four in agreement are prepared to kill the holder of the minority viewpoint. The threat of violence, in this instance, is not due to resources, but simply different judgments, and I believe that most of our day to day conflicts follow this path. Killing the disbeliever certainly seems drastic: after all, it is just a difference of opinion. And yet, how often do we find a difference of opinion to be essential, to be a point well worth arguing over? How often do families split over religion? Over customs at the table? What if one of the presenters here today were to give their presentation drunk on alcohol? Would we care? What do we do if someone burns the American flag before our eyes? Or denounces God? And how often do our minds cope withal to the distribution of resources which inevitably shapes evolutionary outcomes for both gene and judgment, and how often do our minds stumble in their

attempt, responding to the myriad of calls and demands placed upon us by the ever changing environment of the present, for which we are not ready? Please forgive my use of rhetorical questions (or do not forgive it, if that is your judgment), but it seems clear that a difference in outcomes of manifest behavior matters, in and of itself, regardless of whether or not a choice-theoretic explanation might be imagined for a particular outcome. There is no correlation between differential conflict and violence, but certain pairings of judgments within a given individual leads to violence, regardless of the level of distributional conflict; if, for example, a single individual holds a judgment concerning religious intolerance, and pairs this with a judgment concerning violence against the out-group individuals, then violence will always occur against out-group individuals upon contact with the intolerant individual.¹⁸ Even if natural selection shapes the likelihood of any given manifest behavior occurring at any given point in time, the underlying rationale for that manifest behavior might or might not be at play in a one off scenario for which there is no repetition of the game. Plato's brutally nomothetic cave involves no suggestion of repetition, no chance for deep evolutionary time to shape the outcome between the prisoners who prefer the shadows, and the prisoner who prefers the light of day.

¹⁸ This is an absurdly simple rendering of violence, and is only used for the purpose of demonstrating how a judgment pairing can logically lead to violent outcomes. As should be clear by now, a myriad of factors influence the outcome of a judgment at a particular point of reference, each of which makes a judgment a highly conditional and narrowly defined attribute.

Conclusion

The interweaving of Neo-Darwinian theory and political science should pay large dividends in the social sciences. Intuitively, we know that social and political structure effect the key three requirements of any evolutionary process: transmission, variation, and selection. Most political science literature emphasizes how politics effects the distribution of resources within a state or polis, or vice versa. I argue that it seems more precise to focus on how political and social structures influence evolution through differences rather than resource distributions; surely, a struggle for resources is just below the surface of manifest political effects such as conformity and repression, but it is the changes and differences in judgment that are most obviously at play in the political and social world. I argue that 3C Analysis provides a way to start looking at the political and social mechanisms that shape evolutionary outcomes, much in the way looking directly at genes allows one to understand the process of genetic evolution through something akin to direct observation rather than from a Lamarkian or Mendelian remove.

One can accept 3C Analysis and differential conflict without accepting the evolution of judgments. 3C Analysis provides a simple way of describing non-distributional conflict, however rare that might be. On the other hand, one could accept evolution of judgments without accepting 3C, since evolution of judgments (or a similar unit of analysis) presents a parsimonious foundation for understanding the complexities and limits of culture, learning, socialization, and rationality. But I hope that my argument persuades other researchers that both the Neo-Darwinian evolution of judgments and 3C Analysis are quite useful when used together to specify how human beings evolve in a

complex political and social environment; and provide a useful analytic filter for the past two centuries of political science research.

The goal of the paper is, first, to offer a precise way of studying human evolutionary processes between the abstract heights of cultural population modeling and the lows of human genetics and, second, to suggest that human natural selection is, in the short run, about differences in judgments rather than resource distributions. In suggesting the latter, I am perhaps arguing against the vast majority of political science and political theory that has developed since the death of Thomas Hobbes.¹⁹ The way human beings fight over their differences might often find its roots in the distribution of resources, but the vast majority of human agents are never fully aware that their conflicts might be boiled down to materialism. Our day to day struggles, and therefore our day to day cultural, political, and social evolutionary processes are governed by differential cooperation and conflict. Our genes, long ago, opened the Pandora's box of culture and social behavior, and as a consequence human beings are more likely to consciously fight and die for Yaweh, race, and marital fidelity than they are for resources, though we should not be surprised if the outcomes of social conflict frequently have, upon closer inspection, a severe effect on the resource distributions which play a significant role in genetic success.

Judgments seem likely to bear ready and low-hanging fruit for theoretical analysis. The evolutionary structure of judgments can help account for the path-dependent nature described by historical institutionalism, and the potential fluidity of

¹⁹ I believe Rousseau's *Second Discourse* (1964) is a notable exception (Meyer 2012).

individual judgments accounts for the rapid shifts noticed in approaches that emphasize individual decision making. Further, I hope that the study of judgments can help in E. O. Wilson's goal of scientific conciliation between disciplines (1999). Though I have challenged Boyd, Richerson, Bowles, and Gintis on theoretical grounds, their work provides valuable hypotheses concerning macro-evolutionary processes in human society. Incorporating 3C Analysis into their programs could yield subtle and precise findings that hold more traction with their peers in evolutionary psychology.

I want to leave with a normative, rather than scientific thought. Neo-Darwinian thought typically describes a somewhat harsh view of reality: if we fail to pass on our genes, we represent the first failure in a long line of successes stretching back at least three billion years. I do not believe that anyone thinks this way. The decision of a couple not to have children does not represent an affront to the dignity of man. Perhaps the decision could be explained away as somehow contributing to the survival of other members of the species, or perhaps the survival of close relatives, but such a step makes us little more than slaves to our genetics, and surely cannot account for the floridity of human life. Our ideas, norms, values, and assessments of the world contribute to the evolutionary diversity and evolutionary sustainment of the human race, but the evolutionary change occurs in judgments as well as genes. In Neo-Darwinian terms, I believe it is important to recognize that the transmission of judgments matters. The hours in the classroom, behind the pulpit, or speaking to a child one on one are all critical and ever-valued aspects of our race, and for a good reason: they contribute not only to our

learning, but to our survival, not of our genes, perhaps, but of our judgments which are the stuff that sets us apart from fawns and flowers, pathogens and parasites.

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Political Thought*, expanded ed. Princeton, NJ: Princeton University Press.

Vita

Johnny Meyer is a 2011-2014 National Science Foundation Graduate Research Fellow, studying Comparative Politics and Political Theory at the University of Texas at Austin. He is the author of a number of stage plays, including "American Volunteers," which won the 2010 \$20,000 Mitchell Award at the University of Texas, and subsequently made the long-list for the Dylan Thomas Prize in the United Kingdom. Johnny received a three year NSF Fellowship to study political violence, particularly as it pertains to the drug cartels along the U.S.-Mexico border. He served in both Iraq and Afghanistan, and his military awards and badges include the Bronze Star, Good Conduct Medal, Combat Infantry Badge, Parachutist Badge, and Ranger Tab.

E-mail address:

JohnnyMeyer@utexas.edu

This thesis was typed by John Michael Meyer.