An Economic Perspective on Leadership*

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I. INTRODUCTION

Much like Supreme Court Justice Potter Stewart and his struggle with defining pornography ("I know it when I see it"), scholars have been hard pressed to develop a model of leadership. This is not for lack of trying. Each year, scores of books are written on the topic (more than on any other) cataloging traits and operating styles that effective leaders possess and/or providing emblematic case studies and anecdotes. According to Bob Eckert, Chairman and CEO of Mattel, Inc., a search on Amazon.com reveals nearly 200,000 matches for books dealing with leadership (Eckert, 2008). Countless speakers like Bob are invited to business schools as well as for university commencement addresses to opine on the subject. And leadership programs continue to sprout within academic, corporate, and government settings.

Notwithstanding the significant effort to arrive at a framework for understanding leadership, precious little progress appears to have been made. Indeed, Warren Bennis' (1959) assertion of nearly a half century ago seems to ring even truer today:

> "Of all the hazy and confounding areas in social psychology, leadership theory undoubtedly contends for top nomination. And, ironically, probably more has been written and less is known about leadership than any other topic in the behavioral sciences."

We intuitively know that leadership matters and can point to settings on the political stage (Lincoln during the Civil War, Gandhi's championing the Satyagraha movement, Susan B. Anthony's advocacy of women's rights, Nelson Mandela's nonviolent promotion of racial equality in South Africa) and military and sports arenas where that seems to be the case. Witness the Fuqua/Coach K Center of Leadership and Ethics

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built by Duke University's Fuqua School of Business around the highly popular basketball coach Mike Krzyzewski; the accolades bestowed upon and sales of motivational books written by Pat Summitt, coach of Tennessee's Lady Vols basketball team; and the speaking fees currently charged by former military leaders of Operation Desert Storm such as Colin Powell and "Stormin' Norman" Schwarkopf.

Yet as much as we have learned about leadership, it is fair to say that our conception of it remains much more as an "art" than a "science"--akin to the perceptions of management prior to the establishment of business schools at universities and efforts thereafter to bring intellectual rigor from core academic disciplines such as economics and psychology to bear on the profession. In a modest way, this paper seeks to advance our understanding of leadership and to show that it has the potential to be a science as well as an art. It does so by borrowing an integral concept from economics, the prisoner's dilemma, and showing how effective leadership requires solving this dilemma, a challenge as problematic as the proverbial Gordian Knot that confronted Alexander on his way to Great-ness.

In a very fundamental way, leadership involves creating opportunity from a seemingly intractable setting that, if otherwise left to its own resolution, confines us to an inferior equilibrium. To rise above this suboptimal outcome requires re-conceptualizing a one-shot play of the prisoner's dilemma into an indefinitely-repeated framework. This paper shows how effective leaders make this traverse through vision; enrolling others to participate in the ongoing play of the reformulated prisoner's dilemma; commitment; integrity; communication; and authenticity.

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II. THE PRISONER'S DILEMMA AS LEADER'S OPPORTUNITY

The prisoner's dilemma is a well understood concept in economics. It helps explain why cartels break down, public goods are undersupplied, medical costs burgeon under a system of third-party payment, litigiousness in a society rises when its judicial system taps "deep pockets", and representative democracies tend to run fiscal deficits (Browning and Zupan, 2008). At its core, the prisoner's dilemma illustrates that there are settings in which the pursuit of self-interest leads to sub-optimal outcomes, in marked contrast to one of the core insights from Adam Smith's The Wealth of Nations (1937) regarding the socially beneficial workings of the Invisible Hand.

Based on the strategy employed by law enforcement agents who are seeking evidence of a greater crime from a set of prisoners who collectively have been picked up for a lesser offense, the prisoner's dilemma is illustrated in Table 1 for the simplest 2x2 case. In Table 1, two prisoners, Bonnie and Clyde, are interrogated separately by prosecutors and offered the symmetric payoffs of: only 1 year in prison if they turn state's evidence and confess to the crime while their partner does not (their implicated partner is sent to jail for 15 years for the more major offense); 2 years in the slammer if they as well as their partner do not break under the separate interrogations (their partner is also incarcerated for 2 years in such a scenario for the lesser offense that has been committed); 10 years in prison if both parties rat on each other, thereby giving law enforcement agents sufficient evidence to convict both for the major offense and mete out the identical, more substantial sentence; and 15 years behind bars if they do not

confess but their partner does (implicating them while getting off with the lighter 1-year sentence in return for providing the damning evidence).

Table 1: The Prisoner's Dilemma

		Bonnie	
		Confess	Don't Confess
Clyde	Confess	10 years in prison / 10 years in prison	15 years in prison / 1 year in prison
	Don't Confess	1 year in prison / 15 years in prison	2 years in prison / 2 years in prison

Note that in this simple example, each party has a dominant strategy to confess. The pursuit of self interest leads to a pareto inferior income, from Bonnie and Clyde's perspective, relative to the dominated strategy of not confessing (10 years in prison versus the 2-year sentence that would accompany being convicted for the lesser crime).

Table 2 recasts the prisoner's dilemma in the case of positive, profit outcomes for two symmetric duopolists, Utopia and Artesia, operating in the bottled water market. The two firms can maximize their collective profits by complying with an agreement to cartelize the market--each thereby earning profits of 20. Both firms, however, have an incentive to cheat on the cartel agreement that would maximize their well-being, lowering their individual profit to 10 in the process.

Table 2: Cheating in a Cartel

		Artesia	
		Cheat	Comply
Utopia	Cheat	10 / 10	5 / 25
	Comply	25 / 5	20 / 20

Because the Table 2 prisoner's dilemma game has a dominant-strategy equilibrium where all firms cheat, it appears that successful collusion never occurs unless binding contracts are permitted and enforced by an external authority. As is well known, however, such a conclusion is overreaching since firms often interact more than once and the appropriate framework is thus repeated-game as opposed to one-shot.

With repetition, there is a future. A future gives participating firms a dimension with which to enforce a cartel agreement by punishing one another for cheating and this critical dimension has been shown to elicit more cooperative outcomes. Indeed, Axelrod (1984) shows that in an indefinitely-repeated prisoner's dilemma setting, the equilibrium that tends to emerge is the exact opposite of the one predicted by a one-shot framework. Namely, taking steps toward the collaboratively beneficial outcome until one's partner transgresses from such a strategy and then retaliating in kind (the "Tit-for-Tat" or Old Testament "Eye-for-Eye" approach) consistently outperforms any other strategy put forth in Axelrod's round-robin simulations.

The ability to recast a prisoner's dilemma from a one-shot to an indefinitely-lived prisoner's dilemma setting provides a key insight into leadership. In particular, leadership involves the creation of a future and promotion of cooperative behavior by parties enrolled in an endeavor such that more is attained jointly over time than could be realized by individual, self-maximizing behavior in any given period of play. To borrow a well-worn phrase: leaders ensure that the whole is greater than the sum of the parts. The ensuing sections spell out key aspects of leadership within the prisoner's dilemma framework that produce such a successful outcome: vision; enrollment; commitment; integrity; communication; and authenticity.

III. THE FIRST ASPECT OF LEADERSHIP: VISION

Economists are prone to make assumptions as part of practicing our craft. A central assumption of relevance to our discussion here is the existence itself of a prisoner's dilemma that can be played repeatedly and indefinitely. While we may take it for granted ex post, leadership hinges critically on "the vision thing" and seeing it ex ante, where others may not have conceptualized it before but can acknowledge it ex post.

Former University of Notre Dame president Theodore Hesburgh stated that "The very essence of leadership is that you have to have a vision." According to Bennis and Nanus (1997, pp. 81-82), a vision is "a target that beckons" and is central to organizational formation/growth and success:

> Over and over again, the leaders we spoke to told us they did the same things when they took charge of their organizations--they paid attention to what was going on, they determined what part of the events at hand would

> be important for the future of the organization, they set a new direction, and they concentrated the attention of everyone in the organization on it. We soon found that this was a universal principle of leadership, as true for orchestra conductors, army generals, football coaches, and school superintendants as for corporate leaders.

Whether it be Martin Luther King's dream of racial equality, John F. Kennedy's announcing, in 1961, the goal of putting a man on the moon by 1970, Bill Gates entrepreneurial aim to put a computer on every desk in every home, or Mother Teresa's determination to care for Calcutta's destitute, the conceptualization and articulation of targets that beckon is a critical task for any leader hoping to inspire others to sustained collective action.

III.A. The Sources of Vision

How does a leader discover, structure, and articulate prisoner's dilemmas that will yield benefits for all concerned if the game is played repeatedly? A common belief is that leaders hatch such ideas de novo in isolated bursts of clarity--much like Athena reputedly sprang from Zeus' head. The leaders then come down from the lofty mountaintops they have scaled in the pursuit of a vision to present their insights to awaiting followers who are ready to be led from the wilderness by the clairvoyant leader.

While there are certainly examples that one can point to in support of the great person view of leadership, there are many others that accord with a more Hayekian (1945) version of how knowledge is developed in society. Indeed, Bennis and Nanus (1997, p. 88) note that:

> Historians tend to write about great leaders as if they possessed transcendent genius, as if they were capable of creating their visions and sense of destiny out of some mysterious resource. Perhaps some do, but upon closer examination it usually turns out that the vision did not originate with the leader personally but rather from others.

Personal Administrative Experiences. My personal experience with leadership in business higher education over the past two decades accords with the observation by Bennis and Nanus (1997) on this score. Indeed, of the administrative assignments that I have held at three different academic institutions, the accomplishments that I am proudest of stemmed from insights made by others in the organization that were quite obvious for their rationality and impact once they became articulated but were much less apparent prior to that point in time (much like the reaction one may feel when the rationale is provided for why so-and-so has won a Nobel Prize).

At USC's Marshall School of Business, for example, we convinced a promising MBA applicant to accept our admissions offer over some rival programs. The applicant accepted our offer largely because he saw that USC had the world's top cinema school and that mutually beneficial bridges could be built between the cinema and business schools, located as they are in the entertainment capital of the world. The student's insight, in retrospect, should have been seen by others in the organization decades prior to his arrival. It took his matriculation and bridge building in the early 1990s, however, to create an entertainment management program that now thrives at Marshall (routinely, 20

percent of any incoming MBA class wants to major in the program that the student in the early 1990s helped bring to life at USC).

In 1997, as an incoming dean of the University of Arizona's Eller College of Management, I had expressed the intent of focusing on the MBA program at that institution. Such an objective seemed eminently logical given how much the media rankings spotlight has focused on business schools' full-time MBA programs in recent decades. However, through conversations with stakeholders at Eller, I began to realize how much greater impact a little more emphasis on the undergraduate business program would have on the well-being of that institution. In particular, the most successful Eller College alums (an overwhelming percentage of whom graduated with a BBA rather than an MBA) would routinely rather meekly note at the end of an initial meeting that while media rankings mattered, their belief was that just a little more attention on the BBA program was merited. Each year, the University of Arizona graduates ten times as many BBA as full-time MBA graduates.

On account of the insights provided by prominent alums, we were able to make some important enhancements to the Eller College BBA program including a required interview of all applicants, more rigorous admissions standards in general, a cohort-based approach to delivering the curriculum, and greater emphasis on communication skill-building and professional development. Changes such as these led to the school's first ever top 20 ranking at the undergraduate level in *U.S. News and World Report* and student buy-in and Board of Regents approval for establishing differential tuition at the

undergraduate level (something that had been unheard of for a public higher education institution located in a state whose constitution expressly stated that college tuition should be as nearly free as possible).

The incremental revenues from establishing a differential tuition program at the undergraduate level proved to be an important benefit for the College and all of its programs since the funds could be deployed to attract/retain faculty teaching graduate as well undergraduate students. In addition, prominent alums, some of whom had been the impetus for the BBA emphasis, began assisting the Eller College philanthropically at dramatically higher levels. Ultimately, the College was able to set its sights on securing at least $100 million in gifts as part of a fundraising campaign versus the initially contemplated a $21 million target.

Finally, starting in 2004, as the new Simon School dean at the University of Rochester, I was intent on working with key constituents to enhance what was already an excellent graduate school of business. Those plans did not include paying greater attention to attracting *Early Leaders*--younger applicants with relatively less work experience to the full-time MBA program (0-3 years versus the traditional 4-6 years of average experience that prevails at other leading business schools).

My Simon plans changed after a conversation with a senior faculty member who pointed to the merits of focusing on traits such as smarts, drive, character, and presence as opposed to sheer years of prior work experience in our admissions decisions. The faculty member noted how business schools admitted candidates straight out of college up through the late 1980s when media rankings appeared and

created an incentive to pursue older students by emphasizing average starting salaries as a ratings criteria (the best predictor of post-MBA starting salary is pre-MBA salary).

Diversity suffered on account of the shift toward older full-time students (Brickley and Zupan, 2007). Top-tier business schools are now less female than they were in the early 1980s (28.2 percent in 2007 in the top 30 versus 28.6 percent in 1984). This is in marked contrast to leading medical and law schools whose graduate programs are roughly 50 percent or more female, still largely select candidates straight out of college, and--probably no coincidence--are not evaluated by media rankings on the basis of their graduates' starting salaries.

Since launching the *Early Leaders* initiative, the Simon School has experienced significantly greater full-time MBA enrollment growth than other leading business schools (Brickley and Zupan, 2007). Quality, if anything, has been enhanced on many dimensions as Simon has shown greater increases in incoming GMAT scores and GPAs than most other top 50 schools ranked by *U.S. News and World Report.*

Diversity has improved—half of Simon School's *Early Leaders* are female. Recruiters, some of whom were skeptical initially of the initiative, are hiring *Early Leaders* more quickly than their more experienced counterparts and the salary penalty they are assigning to youth ($12,000-$15,000 lower average starting salaries) is surprisingly small. The post-MBA starting salary differential is sufficiently small to ensure that, on average, *Early Leaders* can double, by the age of 30, the net return of investing in a full-time MBA relative to the option of pursuing the degree as a more experienced student. This sizable difference in return on investment reflects the fact that

Early Leaders earn the post-MBA salary jump earlier in their careers and then see it compounded by future year's salary increases. *Early Leaders* also sacrifice less in terms of forgone salary by opting to pursue the MBA earlier in their careers.

Early Leaders may well end up being the initiative in which I take the greatest ultimate pride in my own administrative career. Importantly, for the purposes of this paper, the ex ante counterintuitive idea that I am now such a champion of ex post, was something that welled up from the organization that I was part of through the insight of one of our senior faculty members. Now at the heart of the Simon School's strategic plan, *Early Leaders* was initially something that I was antithetically opposed to and had, in fact, worked against at previous administrative posts, having sought to ensure a minimum number of years of prior work experience for consideration of MBA admission.

III.B. Creating a Vision's Organizational Architecture

Conceptualizing the repeated, indefinitely-lived prisoner's dilemma game at the heart of leadership, of course, involves developing the appropriate organizational architecture. This architecture can take explicit and implicit forms. It defines the empowerment of the various participants in the organization and thereby the strategies available to these participants. In addition, the architecture also spells out the payoffs associated with the pursuit of various strategies by an organization's participants and includes mechanisms to evaluate individual and group performance.

In a Jensen-Meckling (1976) world where there is imperfect policing of agents by their principals, Brickley, Smith and Zimmerman (2009) note that there are three key

legs to any organizational-architecture stool: the allocation of decision rights; systems to evaluate the performance of individuals as well as groups of individuals within the organization; and the methods of rewarding individuals. These three legs can be seen to boil down to facets that determine the strategies and payoffs in a prisoner's dilemma conception of leadership. Such facets of organizational architecture: "facilitate *or* subvert 'the best-laid plans,'" according to Bennis and Nanus (1997, p. 103).

IV. THE SECOND ASPECT OF LEADERSHIP: ENROLLMENT

The conceptualization of a vision is a necessary but not a sufficient condition for successful leadership. Merely outlining the nature of a prisoner's dilemma game whose repeated and indefinite cooperative play will result in collective improvements in welfare does not guarantee that the game will actually be played. As economists well know, any game theoretic situation requires three key elements: players, strategies, and payoffs. Yet, just like the existence of a game and its associated strategies and payoffs, economists also tend to merely assume the existence of players.

Leaders worth their salt realize that the voluntary enrollment of others is no small task and is instead a critical aspect of leadership. Scherr and Jensen (2008) note that enrollment is integral toward successfully bringing a newly envisioned future into being and cannot just be assumed into existence. Bennis and Nanus (1997, p. xiii) observe:

> True leaders have an uncanny way of enrolling people in their vision through their optimism--sometimes unwarranted optimism. For them the glass is not half-full, it's brimming. They believe--all of the exemplary leaders that we have studied--that they can change the world or, at the

> very least, put a dent in the universe. They're all purveyors of hope. Confucius said that leaders are 'dealers in hope'.

The other aspects of leadership outlined in this paper--vision, organizational architecture, effectiveness of communication, the authenticity and integrity of a leader, demonstrated commitment--all can play key roles in facilitating enrollment. Beyond these aspects, empowerment is a powerful means to encourage others to voluntarily and cooperatively play a repeated prisoner's dilemma game (Bolton, Brunnermeier, and Veldkamp, 2008; and Zaffron and Logan, 2008). If others believe that a venture's vision is theirs to help shape, they are much more likely not only to contribute to the development of a compelling vision but to want to participate in its execution on account of the stake they hold in the venture.

Hayek's (1945) insight, on the eve of the Cold War, as to why communism would ultimately grind itself to a halt, stemmed from the fact that command-and-control systems do not provide sufficient incentive to those closest to the bits of information scattered throughout society to act on and profit from valuable knowledge of place, time, and circumstance. This insight leads to an inverse corollary to one of Adam Smith's well-known dictums in the *Wealth of Nations* (1937): "What is prudence in the conduct of every great society can scarce be folly in that of particular ventures within that broader society." Whereas the Pilgrims almost starved themselves to death when the land surrounding Plymouth Colony was owned in common and decisions were made centrally, the willingness to participate in cultivating fields rose dramatically and the

Colony became self-sufficient when individual settlers were granted rights to farm particular plots of land (Koch, 2007).

The ancient Chinese philosopher Lao-tzu perhaps summed it up best when he observed how critical empowerment was to enrolling others in and then ensuring the long-run success of any great undertaking (Bennis and Nanus, 1997):

> Fail to honor people, they fail to honor you…The wicked leader is he who the people despise. The good leader is he who the people revere. The great leader is he who the people say, 'We did it ourselves.'

IV.A. Getting the Right People on the Bus and in the Right Seats

Integral to the enrollment process is selection. According to Jim Collins (2001, p. 41), the executives who were able to lead their publicly-traded companies from good to extended periods of great performance "first got the right people on the bus (and the wrong people off the bus) and then figured out where to drive it."

Focusing on who to get on the bus and in which seats, the publicly-traded good-to-great companies analyzed by Collins and his research team realized important advantages such as being better able to deal with changing circumstances and lower monitoring costs. Collins notes that (p. 42): "the right people don't need to be tightly managed or fired up; they will be self-motivated by the inner drive to produce the best results and be part of creating something great." Schmidt (2008) makes the related point that in dynamic market settings, agency costs are lower and firms will be more

adept at identifying and realizing profitable new opportunities where the right people have been selected for the right corporate seats. Bossidy (2001) provides a further compelling example from his days as CEO of AlliedSignal (1991 through 1999), as to the importance that selection plays in improving organizational performance.

By contrast, companies with the wrong people on the bus and/or in the wrong seats generally are incapable of achieving greatness even when they have the right direction and/or seemingly appropriate organizational architecture—see, for example, Schmidt (2008) on the latter facet of this point. Moreover, comparison firms studied by Collins that frequently followed the "genius with a thousand helpers" model—in which a genius leader sets a vision and then enlists a bevy of competent "helpers" to assist with making the vision a reality—tended to perform less well. Indeed, such comparison firms often failed altogether when the resident genius departed.

Collins notes the case of Nucor, a steel manufacturing firm that was one of 11 publicly-traded firms out of hundreds examined which: showed a sustained (15-year) period of outperforming the broader market by a factor of at least 3-to-1 after a similar period of cumulative stock returns at or below that of the broader market; and outperformed peer firms in the same industry over a sustained period and thus could not merely be explained away as being "lucky". Nucor rejected the old adage that a firm's people are its most important asset. Instead, Collins observes that the Nucor experience underscores that (p. 51): "In a good-to-great transformation, people are not your most important asset. The *right* people are."

The Collins evidence provides strong support for the Hayekian perspective on how visions are developed. Indeed, the evidence even calls into question the primacy of vision before successful enrollment of the right people. According to Collins (p. 63): "The key point is that 'who' questions come before 'what' decisions—before vision, before strategy, before organization architecture, before tactics."

V. THE THIRD ASPECT OF LEADERSHIP: COMMITMENT

The first two aspects of leadership noted above focus on structuring the indefinitely-lived prisoner's dilemma game at the heart of leadership. Namely, a leader must outline a vision of the game to be played (including the strategies and payoffs) and enroll fellow players. Beyond structuring an indefinitely-lived prisoner's dilemma game, however, leaders also shape the process of playing the structured game. They do so through their commitment, integrity, communication, and authenticity. This section and the ensuing ones deal respectively with these four process-related aspects of leadership.

Let us turn first to commitment. As Hermalin (1998) appropriately points out, leadership is distinct from formal authority. It reflects informal authority and requires voluntary followership. Within a prisoner's dilemma setting, there are two ways that a leader can motivate others to put in effort toward promoting the collective good: sacrifice and example. The leader may offer, for example, gifts such as free food or vacation travel to prospective followers to encourage them to render effort on behalf of the collective enterprise--not so much for the private reward associated with the pursuit of the gifts but for the public-goods or signaling value the offer itself provides to

prospective followers about a worthwhile activity being promoted. Alternatively, as humanitarian Albert Schweitzer noted “example is leadership” and leaders can convince followers to engage in a collective activity by being the first to devote effort to the cause.

Commonly, leaders are credited with being the first ones in the office in the morning and the last ones to leave at night and never ask followers to undertake a task that they themselves are unwilling to perform. Historical instances of leading by example abound and include Rosa Parks refusing to give up her seat on the bus to a white male passenger when ordered to do so by the driver; Teddy Roosevelt leading his Rough Riders up San Juan Hill during the Spanish American War; Colleen Barrett, President Emeritus and former Chief People Officer of Southwest Airlines, who was so instrumental in developing and living the culture of “LUV” that made her company consistently the most (and only) profitable firm in its business over the last three-plus decades; and Abraham Lincoln being the first Northern elected political leader to visit Richmond within days after its fall to the Union Army in April 1865. “Let ‘em up easy” replied Lincoln while touring the Confederate capital at grave personal danger and being asked by a Union general how the defeated Southerners should be treated. Lincoln’s remarks echoed his second inaugural address of March 1865 calling for the victorious North to proceed “With malice toward none, with charity for all…let us strive on to finish the work we are in; to bind up the nation’s wounds;…to do all which may achieve a just, and a lasting peace, among ourselves, and with all nations.”

Whether through sacrifice or example, leadership requires commitment to the vision that has been articulated for voluntary followership to occur. Without such a convincing signal being sent, Hermalin shows that rational fellow players will not be induced to

follow a leader who otherwise has an incentive to mislead. Furthermore, of the two forms of potential signaling, leading by example is welfare superior to sacrifice since it is a productive action that directly increases welfare whereas sacrifice merely involves a transfer with no direct impact on welfare.

In the context of the repeated-game prisoner's dilemma model of leadership spelled out earlier, commitment involves leaders making a cooperative first move that then creates a foundation for eliciting mimicking behavior by fellow players in future plays of the game. In a sense, leaders create an extra round to the game during which they convey a signal, through action, as to the strategy they intend to select--cooperation--toward fellow players in future rounds. In an indefinitely-repeated-game setting, this extra round inserted by leaders in effect primes the pump for cooperative behavior to occur throughout the interaction since it encourages the more rapid spread of the tit-for-tat strategy shown by Axelrod (1984) to otherwise emerge in equilibrium.

VI. THE FOURTH ASPECT OF LEADERSHIP: INTEGRITY

As Erhard, Jensen, and Zaffron (2008) show "without integrity nothing works." Once a vision has been articulated, fellow players enrolled, and a commitment made by the leader that elicits cascading consonant commitments from followers, honoring one's declared words through ongoing actions is critical to the success of collective enterprises. In the context of the outlined prisoner's dilemma game setting, the surest way for a leader to facilitate cooperative behavior on the part of voluntary followers is to take repeated steps in sequential plays of the game that are consonant with the vision

for the enterprise. Conversely, as proved by Axelrod (1984), the sub-optimality of a relationship's outcome is directly related to the extent to which players are prone to cheat on the vision for the relationship and take steps in any period that are in their more narrow self-interest.

In a very real sense, integrity is a flow variable. "Trust", in turn, reflects the stock that is built up over time through investments in integrity by a player in repeated plays of a prisoner's dilemma interaction. The greater a player's reputation for integrity, the more likely others will be to entertain entering a relationship with her as well as to behave in a cooperative manner once they are engaged in a relationship. Such are the benefits of building up a stock of trust capital through investments in integrity.

Of course, as noted by Erhard, Jensen, and Zaffron (2008), integrity is not the same as morality, ethics, and legality. These related, but alternative, concepts reflect evolved norms of behavior in a particular group, society, and state, respectively. By contrast, integrity involves a condition of wholeness, entirety, completeness, and being unbroken that is a driving factor in a vision's workability. A leader promotes workability through integrity by following through on the commitments to an articulated vision through subsequent actions. Where integrity is lacking, the result will be a breakdown in the relevant prisoner's dilemma game to the detriment of all involved parties. When the leader (or a follower, for that matter) acts without integrity collective effectiveness will be diminished and supplanted by expediency, broken promises, lack of accountability, and sub-optimality. Zaffron and Logan (2008) note that much as one wouldn't want to drive over a bridge that lacks integrity—that isn't whole and complete—so one wouldn't want to participate in a collective vision missing such a vital ingredient.

Integrity, as defined by Erhard, Jensen, and Zaffron (2008), is thus a positive as opposed to a normative aspect of leadership. It is not a normative assessment of the ethics, morality or legality of a vision. Rather, integrity involves a positive assertion of what steps need to be taken to ensure that a vision will become a reality.

VI.A. The Effect of a Future on the Present Practice of Integrity

While integrity promotes workability and thereby enhances the likelihood that an articulated vision will be realized, there is also an important inverse corollary to this proposition. Namely, leadership as an act that converts a one-shot into an indefinitely-repeated prisoner's dilemma game also serves to promote the practice of integrity. Where the future matters, that is, behavior by individual, self-interested parties confronting a prisoner's dilemma will be more consonant with collective well-being.

Consider the research of Scully (1997) who examined the state-sponsored killing of civilians by their own leaders. In the last century, 170 million people were killed by their own political leaders—7.3 percent of the total population and over 4 times as many as lost their lives to international and civil wars. Scully finds that in a cross-country analysis of killing of civilians by their own leaders, the likelihood of such murder occurring goes down when the future prospective economic contribution of the average civilian to the country is higher. Where citizens' future real GDP contributions promise to be greater, in other words, political leaders show greater respect for the lives of their nation's citizens.

A more recent example involves an examination of the extent to which the resumes submitted by financial service job candidates in the U.K. are characterized by integrity.[1] The survey of nearly 4,000 job applications commissioned by Powerchex, the leading London-based pre-employment screening firm, found that graduates of U.K.'s least well ranked universities (100+) were 3 times as likely to have some form of major embellishment hidden in their application, everything else being equal, than graduates of top 20 U.K. universities. This phenomenon is at least consistent with the fact that the future, in terms of professional earnings and accomplishments, is more valuable to degree holders from higher-ranked schools. Because the future matters more, graduates from top-ranked programs have a natural incentive to behave with greater integrity in documenting their accomplishments to date and thereby not put those more valuable future career opportunities and earnings in jeopardy.

Finally, although business students and, more broadly, capitalism often get portrayed in the popular media as lacking integrity, the preceding corollary also stands this conclusion on its head. To the extent that markets and business promote repeat dealing and a future, they serve to facilitate rather than undermine integrity. On top of the virtues of capitalism that have previously been noted (see, for example, McCloskey, 2006), the promotion of integrity merits consideration for inclusion on the list.

An Observation Regarding Religion, Integrity and the Concept of After-Life. While Erhardt, Jensen, and Zaffron (2008) note that integrity is not the same as ethics and

[1] "A Degree of Creativity on CVs," *FT.com,* July 21, 2008.

morality, there does tend to be some overlap in most major religions. Witness the Old Testament commandment about not bearing false witness or the admonition from the Koran (17:36) noting that lying is serious vice "And do not say that of which you have no knowledge." According to the religion of Islam:[2]

> The Prophet…stressed the importance of always being truthful and the seriousness of habitual lying, 'Truthfulness leads to piety and piety leads to Paradise. A man should be truthful until he is written down as truthful with God. Lying leads to deviance and deviance leads to the Fire.'…The malice of lying is tied to hypocrisy as described by the Prophet Muhammad…The Prophet's teaching is that we try our best to free ourselves of hypocrisy by keeping our trusts, telling the truth, keeping our promises, and not speaking falsely.

Like markets, most of the world's major religions also promote the concept of an indefinitely-lived future. With religion, the relevant future consists of a form of after-life. The model of leadership outlined in this paper indicates why the creation of such an indefinitely-lived after-life has value in terms of promoting a religion's system of ethics/morals, including integrity, in the here and now. Namely, the more future payoffs matter (especially if they are perpetual!), behavior in one's temporal existence will evidence greater integrity and accord with a religion's other tenets.

Beyond promoting greater meaning and particular systems of morality/ethics religions thus can be seen as vehicles toward fostering integrity in the pursuit of those objectives through their conception of an after-life. The prospect of endlessly suffering payoffs akin to those vividly described by Dante in his *Inferno* can beneficially impact

[2] *Saheeh Al-Bukhari, Saheeh Muslim,* in http://www.islam.religion.com/articles/26/.

the personal conduct of those who are still part of the living. Hades, Hell, Gehenna, Jahanan, Avici, Diyu, and Naraka are the types of payoffs and equilibria to be avoided, through adherence to integrity, if human souls truly are subject to the infinitely-lived prisoner's dilemma game as conceived by most of our world's major religions.

VII. THE FIFTH ASPECT OF LEADERSHIP: COMMUNICATION

The successful exercise of leadership requires effective communication. A vision becomes more beckoning when communicated in a compelling fashion. The ability to articulate the organizational architecture (Bennis and Nanus, 1997) of the prisoner's dilemma game as well to inspire others to enroll in the game and play for the collective good both hinge critically on a leader's communication prowess. The capacity to deal with breakdowns (Scherr and Jensen, 2008) that occur in the playing of the prisoner's dilemma game—whether those breakdowns occur due to noise or non-cooperative behavior by individual players—expands dramatically through communication. Finally, communication shapes a leader's authenticity and reputation for integrity.

Scherr and Jensen (2008) note the importance that declaration plays in creating a state change by providing a means of communicating a committed vision of leadership. Declaration differs from assertion in terms of the commitment involved. An assertion, which resides in the domain of management, propounds a point of view or idea that the author commits to providing convincing evidence of at a subsequent point in time. The assertion's author presumably is willing to be held accountable that the supporting evidence to be provided will be sufficient to convince the listener of the validity of the

assertion. By contrast, declaration lies in the domain of leadership, and involves a more powerful and immediate expression of commitment to a future or vision and thereby helps to create that future or vision. The Declaration of Independence aptly illustrates declarative communication as a means to signal commitment to a vision. The signers of the Declaration pledged to each other “their lives, fortunes, and sacred honor” for the purpose of creating a new form of government in the United States dedicated to “life, liberty, and the pursuit of happiness.”

As observed earlier, commitment effectively creates an additional period in the playing of an indefinitely-lived prisoner’s dilemma game. If appropriately channeled, such commitment leads to the realization of collectively desirable outcomes. Importantly, commitment can encompass various potential forms of communication (oral, written, nonverbal as well as verbal, and so on). Such communication involves a leader effectively offering a bond to prospective followers whose value ex post ultimately hinges on the extent to which the leader honors his word but ex ante serves as a useful signal to prospective followers to enroll in and contribute to a collective enterprise. As the age-old saying goes, “one’s word is one’s bond.”

Scherr and Jensen (2008) describe how the identity of a declarer and how listeners hear the declarer’s words can play essential roles in distinguishing declarations from assertions. They relate the example of a judge in a criminal trial saying a defendant is guilty. When the judge renders such a verdict, the defendant is legally guilty and a state change results from the judge’s declaration. By contrast, if the prosecutor in the same trial says that the defendant is guilty this represents only an assertion, not a declaration.

Beyond the articulation of a vision and signaling commitment to that vision, communication also provides an important degree of freedom to a leader dealing with breakdowns during the play of an indefinitely-lived prisoner's dilemma game. As defined by Scherr and Jensen (2008), breakdowns occur when the players involved in bringing a vision to life confront the fact that they will fail to realize the vision if they remain on their current trajectory. Such breakdowns may result from changes in the environment within which the prisoner's dilemma game is being played, changes that adversely impact the expected payoffs involved for the relevant parties. Breakdowns may also stem from one or more parties taking actions more in keeping with their narrow self interest and contrary to the collective vision.

Economics, focusing as it does on the role of incentives, suggests that players involved in an indefinitely-lived prisoner's dilemma game, can take certain retaliatory steps when confronted by breakdowns that are perceived to be the result of missteps by other players (whether those missteps are real or the result of unanticipated changes in nature). Indeed, as mentioned earlier, the "Tit-for-Tat" or Old Testament "Eye-for-Eye" strategy has been shown to consistently outperform all other inter-temporal strategies when it comes to maximizing long run payoffs and the need to face a bevy of alternative strategies, some of whom cheat, at least for certain periods of time, on the collective good (Axelrod, 1984).

Sequential-period retaliation, however, represents just one method to elicit breakthroughs when groups confront breakdowns. Communication offers an important orthogonal means to realize similar breakthroughs. It does so by providing: a mechanism to build recognition within the group that a breakdown has occurred; an

opportunity for the leader as well as the other members in the group to recommit to the vision (albeit, perhaps, in some modified form); and, most fundamentally, the knowledge that breakdowns are the driving force behind innovation and the breakthroughs that ultimately allow for visions to be realized (Scherr and Jensen, 2008). Rather than being the impetus for nonproductive behavior (finding who to blame and/or retaliate against), breakdowns, if channeled through communication in the right way, offer the wellspring to reevaluate and recommit to playing the prisoner's dilemma game at the heart of leadership in a manner that achieves the greatest possible collective outcomes.

Mirrors Versus Windows. Collins (2001) presents a marvelous metaphor for how leaders of Good-to-Great companies rely on mirrors versus windows in their communication when confronting organizational breakdowns as well as successes. Such transformational leaders (p. 35):

> look out the window to apportion credit to factors outside themselves when things go well (and if they cannot find a specific person or even to give credit to, they credit good luck). At the same time, they look in the mirror to apportion responsibility, never blaming bad luck when things go poorly.

By contrast, the leaders of the comparison firms studied by Collins who failed to make the transition from Good to Great tended to use mirrors and windows in opposite ways. The managers of these firms would look out the window to identify who to blame (coworkers, bad luck) when organizational breakdowns occurred and gazed first in the mirror when seeking to apportion credit for organizational successes.

Collins' research indicates that the breakdowns as well as successes realized in the process of bringing a vision to life afford opportunities to mete out nonmonetary payoffs, through communication, to the fellow participants enrolled in an enterprise. Leaders are adept at using communication effectively to signal their own ongoing commitment to the enterprise while eliciting continued productive involvement from their fellow participants. Those leaders who are more generous in sharing the credit for successes and stingy when it comes to blaming others for failure are likely to draw, over time, a wider and more willing set of followers. Conversely, leaders who are stingy in sharing the verbal credit for successes and generous at castigating others for failure tend to attract a smaller and less motivated set of followers.

Two-Way Versus One-Way. Effective communication requires that it be two-way and not just one-way. Much like giving others an equity stake facilitates the development of a vision and empowerment, being open to receiving communication or listening makes a leader more productive than if all the communication travels, uni-directionally, from leader to followers (Zaffron and Logan, 2008). Rotemberg and Saloner (1993) specifically model a bottoms-up approach to leadership and focus on the communication element by which leaders induce followers to exert effort toward collective endeavors by listening to followers' ideas and suggestions for improvement. Just the prospect that their ideas and suggestions for improvement will be listened to by a leader interested in maximizing the long-run value of the venture provides sufficient incentive for followers to exert costly effort on behalf of the venture.

Interaction With Other Aspects of Leadership. Through its impact on authenticity and integrity, communication further influences leadership and its successful exercise. Take the matter of integrity. As defined by Erhard, Jensen, and Zaffron (2008), integrity does not just involve "keeping one's word." Rather, it consists of "honoring one's word." The distinction between these two concepts involves the manner in which individuals address situations where they realize that they will not be able to keep previously made commitments. Honoring one's word in cases like this involves making the situation known as soon as possible to all affected parties. It also requires cleaning up the resulting messes created when commitments cannot be met and making new promises that restore workability to the breakdowns resulting from previous commitments not being kept. Leaders proactively promote integrity, furthermore, by fostering conversations making the topic vital and meaningful for those involved in a collective enterprise (Zaffron and Logan, 2008).

VIII. THE SIXTH ASPECT OF LEADERSHIP: AUTHENTICITY

A number of prominent scholars, leaders, and writers have pointed to the importance of authenticity, character or "being" as an essential aspect of leadership. For example, Bill George (2003, p. 11), former CEO of Medtronic over a 13-year period when its market capitalization grew from $1.1 to $60 billion and now a Professor of Management Practice at Harvard Business School observes:

> After years of studying leaders and their traits, I believe that leadership begins and ends with authenticity…This is not what most of the literature on leadership says, nor is it what the experts in corporate America teach. Instead, they develop lists of leadership characteristics one is supposed to emulate. They describe the styles of leaders and suggest that you adopt them. This is the opposite of authenticity…They focus on the style of leaders, not their character.

On the opening page of their well cited book, *Leaders: Strategies for Taking Charge*, Bennis and Nanus (1997, p. ix) emphasize*:*

> 1: *Leadership is about character.* Character is a continuously evolving thing. The process of becoming a leader is much the same as becoming an integrated human being.

Frances Hesselbein, admired former CEO of the Girl Scouts of America and the Peter Drucker Foundation notes:

> Leadership is a matter of how to be, not how to do. We spend most of our lives mastering how to do things, but in the end it is the quality and character of individuals that defines the performance of great leaders.

Shakespeare perhaps put it best in the play *Hamlet* when Polonius, the advisor to the king, gave his son, Laertes, some sage advice prior to traveling:

> This above all: to thine own self be true,
> And it must follow, as the night the day,
> Thou canst not then be false to any man.

The reason why authenticity or being true to oneself carries such a premium in the exercise of leadership is that the most significant “agency costs” (Jensen and Meckling, 1976) within organizations well may stem, as Michael Jensen has observed, from “shirking” against one’s own self. Much as a fish starts to rot from the head so too will

organizations flounder where leaders aren't true to themselves and thus impose agency costs on both themselves as well as the other parties involved in an enterprise.

To the extent that leaders are inauthentic and not true to themselves and prospective followers either sense the leaders' in-authenticity or are inauthentic themselves, the losses to the collective enterprise multiply. Whereas leaders may articulate a vision that beckons and enrolls others to participate in an indefinitely-lived prisoner's dilemma game, the playing of that game will come to naught if leaders are not true to themselves, let alone if other prospective players sense the leaders' in-authenticity or are inauthentic themselves.

Authenticity carries particular value in a repeated-play prisoner's dilemma game should the leader have the opportunity to create, previously unannounced, a last-period to the game. At such critical junctures, in-authenticity by the leader undermines the collective enterprise. For example, if there is expected to be a last period to the game but players (and perhaps even the leader) do not yet know when that period will be and a leader is inauthentic and/or perceived to be inauthentic, the game will tend to unravel (Selten, 1978) and suboptimal outcomes will be realized by the relevant parties.

Authenticity differs from commitment in that the latter represents actions taken to facilitate the accomplishment of a particular objective whereas the former reflects being consonant with one's true values/self. Commitment is strategic and serves an important role in the exercise of leadership. Actions taken in service of commitment, however, may not perfectly correlate with service of one's authentic self. Where there is a

discrepancy, commitment in and of itself may be insufficient to ensure effective leadership and the optimal collective outcome.

Like integrity, authenticity is a positive rather than a normative concept. Individuals, that is, can be authentic pursuing evil or noble objectives (however, normatively, “evil” and “noble” are defined). Like integrity, furthermore, authenticity implies workability. Without authenticity, that is, effective leadership tends to be an oxymoron.

An individual’s authenticity is likely to be highly correlated with his or her “emotional intelligence” (Goleman, 1995). Moreover, authenticity can become revealed to the individual as well as to relevant parties through adversity as well as the absence of adversity. For example, the ancient Greek playwright Sophocles observed in his play *Antigone:* “But hard it is to learn the mind of any mortal, or the heart, till he be tried in chief authority. Power shows the man.” Analogously, Abraham Lincoln noted that one could truly measure an individual’s values only by what he or she did when unconstrained (to an economist, the “bliss point” selected by such an individual faced with no relevant constraints).

IX. SUMMARY AND CONCLUSION

On the question of whether nature or nurture most determines leadership, Bennis and Nanus (1997, p. 207) come down squarely in favor of nurture:

> *Myth 2: Leaders are born, not made.* Biographies of great leaders sometimes read as if they had entered the world with an extraordinary genetic endowment, that somehow their future leadership role was preordained. Don’t believe it. The truth is that major capacities and

> competencies of leadership can be learned, and we are all educable, at least if the basic desire to learn is there and we do not suffer from serious learning disorders. Furthermore, whatever natural endowments we bring to the role of leadership, they *can* be enhanced; nurture is far more important than nature in determining who becomes a successful leader.

To the extent that nurture indeed does play the more pivotal role, this paper has spelled out the critical aspects that influence the effective exercise of leadership. At its core leadership involves recasting a one-shot prisoner's dilemma into a collectively beneficial indefinitely-repeated version of the same game. Leaders accomplish this fundamental transformation by creating a compelling vision; enrolling fellow players to participate in the development and execution of the vision; demonstrated commitment to the vision; integrity; communication prowess; and authenticity. Of these six identified aspects, the first two involve the set up or structuring of the indefinitely-repeated prisoner's dilemma game at the heart of leadership. The remaining four aspects focus on the process by which the structured leadership game is actually played.

Of course, beyond the framework outlined above much more remains to be explored to add appropriate sinew and skin to the bare-bones skeleton. For example, as noted by Hermalin (1998) what motivates certain individuals to be leaders? Superior information/vision, communication skills, integrity, and authenticity are possible determinants. Individuals can also differ in the utility they derive from having a following and in their perceptions of leadership as a means to gain valued fame, historical approval, and/or religious rewards.

What factors/traits influence authenticity and integrity? Why are certain individuals more prone to be future-oriented and to not behave in their more narrow self-interest in any individual round of a repeated prisoner's dilemma game?

What role do "crucibles" (Bennis, 2003) play in facilitating the key aspects of leadership? To what extent do breakdowns (Scherr and Jensen, 2008) in the playing of an indefinitely-repeated prisoner's dilemma game serve as crucibles?

When is remaining committed to a declared vision the wisest course of action? When is it more appropriate to revise a vision given that there are implications for enrollment, organizational architecture, integrity, communication, and so forth?

In order to fulfill a particular vision, to what extent does communication matter relative to the appropriate design of a firm's organizational architecture? This question is analogous to the one faced by any parent in raising a child.

The foregoing are just a few of the important issues that await further investigation. For now, suffice it to say that this paper has laid out one economist's vision for conceptualizing leadership. The ultimate success of the vision will, of course, hinge on the extent to which it is effective in gainfully enrolling other scholars in the further study of leadership.

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