

Deconstructing the Breakthrough Leadership Thinking of Visionary Social Change Agents

—Insights and Strategies for Leading Transformative Change from Four Case Studies

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Abstract

This article reports results of a multiple case investigation of the *breakthrough leadership thinking processes* of visionary social change agent leaders. Case study profiles of four selected social change leaders who have made lasting career contributions as innovative change agents in their chosen professional domains are presented. In-depth analyses of the four change leader cases revealed new conceptual understandings regarding fundamental connections among each individual leader's core values and beliefs, breakthrough leadership thinking processes, and the ways in which each leader was able to leverage innovative insights generated from this breakthrough thinking to inspire and guide positive transformative change in the leader's chosen domain and socio-organizational setting. Seven key *change leadership insights and strategies* derived from the study's collective individual and comparative case analyses are highlighted that may be of practical use to change leaders working today in a variety of professional domains and socio-organizational settings.

Keywords

Leadership Thinking Processes, Visionary Leadership, Transformative Change, Organizational Renewal

1. Introduction

Within the literature in organizational psychology and applied sociology can be found a wealth of conceptual writings and empirical studies on the nature and purposes of *leadership* in organizations (Bass, 1985, 1990, 1998; Bass & Riggio, 2005; Bennis & Nanus, 1985; Burns, 1978; Gardner, 1990; Kouzes & Posner, 1987, 2002; Puccio et al., 2007;

Rost, 2000; Schein, 1985; Tichy & DeVanna, 1990; Yammarino, 1993; Yukl, 2012). This literature has sought to dissect the concept of leadership through multiple perspectives and conceptual lenses in an attempt to unravel its complexity and reveal its fundamental characteristics. Moreover, the literature on leadership intersects with and is informed in important ways by the literature on *organizational change* in complex social organizations (Bolman & Deal, 2013; Burke et al., 2009; Burke, 2011; Burrell & Morgan, 1979; Calas & Smircich, 1987; Cameron & Quinn, 2011; March & Simon, 1980; Morgan, 2006; Senge, 2006; Smircich & Morgan, 1982). These cumulative efforts in investigating the construct of leadership *and* the nature and practice of leadership in relation to organizational change within the general framework of the sociology of complex organizations have certainly contributed to helping refine our understandings of who leaders are and how leaders engage in the act of leading people in social organizations. However, in many ways, fully illuminating the nature of effective *change agent leadership* in social organizations—especially how effective “change agent” leaders are able to inspire and bring about *positive transformative change* in the organizations they are leading—remains as elusive a task as ever. This task is made all the more difficult by the singularly abstract and inscrutable nature of the *process of leading* itself. It is certainly possible to identify the *effects* of change agent leadership (e.g., decision-making actions, proclamations, innovative practices). But examining the “effects” of change agent leadership alone does not necessarily help us get at the underlying creative and insightful *thinking* that actually engenders these change leadership effects. Investigating effective change leaders’ *thinking processes*—that is, how unusually effective change leaders develop and refine their core leadership values and beliefs, mentally identify and approach problems, evolve their innovative thinking, and generate breakthrough leadership insights—continues to be comparatively uncharted (i.e., only partially mapped) terrain for researchers interested in more fully elucidating the complex nature and characteristics of change agent leadership in social organizations.

More specifically, in reflecting on the potential ways in which one might systematically examine effective change leaders’ breakthrough thinking “processes”, is it possible (perhaps through employing focused case analysis methods and/or other related investigative techniques) to discern noteworthy characteristics and similarities in the overall *leadership thinking processes* of effective change agent leaders that could potentially provide important clues to how such leaders are able to generate breakthrough insights that enable them to lead positive transformative change in their social organizations? For example, do effective change leaders hold or adopt singular social and/or organizational values and beliefs? Do these kinds of leaders demonstrate a propensity for a particular style or manner of “mental analysis” in the way they sort through/identify problems and approach problem-solving challenges? Do effective change leaders engage in discernible patterns of leadership decision-making logic? Do they display any unique kind of intuitive “change agent leadership sense”? As an organizational leadership researcher, these are questions that continue to fuel my desire to zoom in on and investigate in-depth the *thinking processes* of effective social change agent leaders. Moreover,

these questions peak my interest in wanting to explore how these change leaders' capacity for uniquely "visionary" and/or "innovative" thinking enables them to achieve *breakthrough leadership insights* that can inspire transformative change in their chosen leadership domains and socio-organizational settings.

In particular, I am interested in examining the leadership thinking of social change agents who are *change visionaries*. By this I mean individuals who possess the ability—driven by their passionate commitment to a set of core values and beliefs—to shape and share with others a *creative new vision of positive change* in their professional domain and socio-organizational setting. The "new vision" these social change agents are able to generate is one that has the capacity to *clarify* and bring new *integrative meaning* to a social organization or domain area through assisting members in assimilating and making sense of turbulent change forces that can periodically disturb the equilibrium of social organizations. Most importantly, this new vision has the power to inspire members toward *organizational renewal*—that is, to empower and enable members to move forward together confidently in the direction of positive transformative change. Lee Thayer (1988) elucidates this "communicative sense-making" ability of visionary leaders through describing a visionary change leader as "one who alters or guides the manner in which his followers 'mind' the world by giving it a compelling 'face'. A leader at work is one who gives others a different form, a different 'face', in the same way that a pivotal painter or sculptor or poet gives those who follow him (or her) a different way of 'seeing'—and therefore saying and doing and knowing in the world. A leader does not tell it 'as it is'; he tells it as it *might be*, giving what 'is' thereby a different 'face'... The leader is a *sense-giver*" (Thayer, 1988: pp. 250, 254). Similarly, Kouzes and Posner (1987) define leadership *vision* as "...first of all, a 'see' word. It evokes images and pictures. Visual metaphors are very common when we are talking about the long-range plans of an organization. Second, *vision* suggests a future orientation—a vision is an image of the future. Third, *vision* connotes a standard of excellence, an ideal. It implies a choice of values. Fourth, it also has the quality of uniqueness. Therefore, we define a vision as *an ideal and unique image of the future*" (Kouzes & Posner, 1987: p. 85).

Rather than attempting to undertake a comprehensive investigation of the leadership thinking processes of multiple change leaders (across multiple generations or historical periods) working within one identified domain or socio-organizational setting, in the study reported in this article I explore the *breakthrough leadership thinking processes* of visionary change leaders through conducting four focused case studies of a selected individual social change leader from four different domains. The four change leaders I have selected to examine are individuals who are widely recognized for their singular visionary and innovative leadership contributions to their respective professional/organizational domains. In these case studies I profile the leadership thinking and innovative contributions of each change leader and examine the ways in which each change agent's collective breakthrough leadership *thinking* and decision-making *actions* have contributed in innovative, enduring ways to significantly expanding the "change forces integration" and "organizational renewal" possibilities for members of

the leader's chosen domain area. Following the four case profiles, I provide a detailed analysis and discussion of the breakthrough leadership thinking processes of these change leaders and how their visionary thinking—and, in particular, the *change leadership insights and strategies* they were able to generate through this visionary thinking and apply directly within their own ongoing leadership practice—was instrumental in serving as a powerful catalyst for inspiring and supporting positive transformative change in their socio-organizational settings.

2. Examining the Breakthrough Leadership Thinking of Selected Visionary Social Change Agents

In this section I provide brief career summaries and change leader profiles of four selected visionary social change agents working as change leaders in four different professional/organizational domain areas: Abraham Lincoln (national politics), Jackson Pollock (painting/visual arts), Jaime Escalante (education), and Douglas Engelbart (computer engineering/information technology). These four professional/organizational domain areas were identified as worthy focus areas of investigation based on the substantive impact each domain area has had historically and is continuing to have on influencing social progress within overall societal culture (defined broadly). Moreover, the four individual “domain-specific” change agent leaders selected for inclusion in this study—a study which centered specifically on investigating the *breakthrough leadership thinking* of visionary social change agents—were identified based on the following selection criteria: 1) the leader produced/generated through the course of his/her professional career a significant body of accomplishments and innovative contributions that have been documented extensively in the historical record of each leader's domain; and 2) the leader has accumulated broad recognition and substantial confirmation in both the domain-specific literature and societal culture in general as a singular *visionary change agent leader* in the leader's chosen professional/organizational domain area.

The four change agent leaders examined in this study—each in their own unique way—broke down conventional barriers, served as passionate pioneers for social justice, promoted new ways of thinking, and expanded the boundaries and limits of what is possible in their respective domains and socio-organizational settings. Most importantly, each of these four visionary leaders played a decisive leadership role in their historical time and place in bringing about *innovative change* and *organizational renewal* in their professional domain area. These four leaders accomplished this feat and earned their recognition as transformative social change agent leaders within their domain through leveraging their leadership vision, incisive change agent thinking, and strong moral commitment to enact bold change agent actions that initiated system-wide and enduring positive change in their chosen organizational arena. Based on these important considerations, the four leaders profiled below were deemed to be representative of the highest level of *exemplary change agent leadership* that can be found in each of the four respective professional/organizational domain areas.

The four career summaries and change leader profiles presented below serve as “lea-

dership case material” to inform the analysis and discussion of these social change agents’ *breakthrough leadership thinking* which follows.

2.1. Breakthrough Leadership Thinking in National Politics: Abraham Lincoln and the Transformative Power of Political Discourse

Abraham Lincoln (b. February 12, 1809—d. April 15, 1865) served as the sixteenth elected president of the United States at a difficult crossroads in the nation’s history. His presidency occurred relatively early on in the documented evolution of the United States as a constitutionally established nation at a time when the country was grappling with difficult internal challenges. At this pivotal turning point in their national history, Americans (in both northern and southern states in the union) by necessity had become engaged in a wrenching process of *organizational self-reflection*: forced by a collective turn of social and political events to participate in a national debate that centered on reexamining and clarifying their overarching organizational identity and purpose as a nation (as originally defined in the United States Constitution and as understood in practice by the American people). With the United States Constitution—which was signed by the constitutional convention delegates in Philadelphia on September 17, 1787 and ratified by the original thirteen states within the subsequent three-year period from 1787 through 1790 (Morris, 1987) and which provided the legal framework for the United States as a democratic national union—still only several decades old, the American people during the 1840s and 1850s became immersed in a nation-wide internal debate over the widespread practice of slavery as it currently existed in the country, mostly in the southern and Atlantic border states. Agricultural landowners in these states owned large numbers of African slaves who constituted the cheap labor workforce that ensured southern plantation productivity and economic competitiveness and helped to define the southern way of life. Slave ownership was already a well-established practice in the American colonies dating as far back as the early 1600s (Wood, 2005). However, as the United States as a constitutional nation continued to develop and expand territorially in the early 1800s, Americans across the country began to formulate increasingly disparate (and sometimes directly conflicting) views regarding the moral legitimacy of slavery and how the practice of slavery could be reconciled (if at all) with the political principles and social beliefs of the Founding Fathers as articulated in the US Constitution. Beginning in the 1840s, these conflicting views erupted into a full-fledged national debate that brought to the forefront the scope and magnitude of a *political and moral-organizational dilemma* that the country was now facing regarding issues of slavery, state economic and political sovereignty, and how to properly interpret the extent and limits of federal governmental authority. This debate involved multiple groups of Americans: 1) *northern pro-slavery Democrats* supportive of slavery as it existed in the southern slave states but not inclined to support extending federal protections to the expansion of slavery in the soon-to-be-acquired western territories; 2) *southern pro-slavery democrats* who were fiercely committed to the continuation of the institution of slavery in all southern slave states and to the expansion of slavery into all

future federally-acquired territories; an array of *northern abolitionists*, including: 3) *moderate republicans* who were opposed to the institution of slavery but were committed to pursuing a negotiated peace to end the civil war before attempting to pass the Thirteenth Amendment to the Constitution to abolish slavery; and 4) *radical republicans* who were staunchly opposed to slavery and favored immediate passage of the Thirteenth Amendment. These political groups were all focused intently on promoting their own partisan views regarding the intensely debated issues before them involving slavery, state sovereignty, and governmental control, and on exerting their political influence as voters (and voting blocks) in supporting their party's various candidates in critical state and national elections. The political challenges emerging in the United States during the 1840s and 1850s in connection with the rapidly accelerating intensity of this nation-wide debate along with the increasing fears harbored by many Americans that this debate could potentially explode into an open civil war required the inspired change agent leadership thinking and insightful interpersonal skills of a strong, resourceful, and resilient national leader. Fortunately for the American nation, this kind of leader came along in the person of Abraham Lincoln.

As an organizational leader, Abraham Lincoln was a multivalent individual: he was an idealist in terms of social justice, but also excelled in the pragmatic realities of political compromise. Lincoln biographers provide ample evidence documenting his open congeniality and his easy-going interpersonal demeanor in his interactions with others (Donald, 1996; McPherson, 2009). In addition, Lincoln was fond of telling humorous stories and used his storytelling talents as a way to put people at ease and enhance his relationship-building efforts. What frequently endeared Lincoln to his compatriots—both to his friends and admirers as well as to his adversaries—was that Lincoln excelled at the *art of listening*. Lincoln continued to develop and refine his interpersonal listening skills throughout his life and career as an elected official. By the time he was sworn in as the sixteenth president of the United States in 1861, Lincoln had evolved into a master *analytic listener* and *relational coalition builder*. Lincoln regularly employed his considerable listening and coalition building skills as an organizational change agent to help him identify *commonalities in thinking* among multiple statesmen and congressional leaders holding diverse (and even conflicting) perspectives and beliefs—and to creatively leverage these common threads as a means to nurture new political alliances that could support the best interests of the nation.

Lincoln, the last of America's "log cabin presidents", received very little formal schooling but was a voracious reader. Throughout his life Lincoln exhibited a penchant for assimilating and reflecting on concepts and ideas from his repeated readings of a wide variety of available books (e.g., the Bible, Euclid, Shakespeare). The ideas Lincoln discovered in these texts greatly influenced Lincoln's moral leadership thinking and served to continually inform his own unique evolving style of "pragmatic decision making". Indeed, Lincoln's political leadership and decision-making style as an Illinois state elected official and subsequently as the nation's sixteenth president reflected a *practical wisdom* that evolved naturally from his life-long reading and reflection. This

practical wisdom often manifested itself in Lincoln's careful and prudent political decision-making and actions, which were always guided by a strong sense of realism regarding the possibilities before him. Moreover, his leadership decisions were always tempered and humanized by the abiding compassion and sense of good will he felt toward his fellow countrymen. Throughout his career as a political leader, Lincoln's change agent leadership thinking and decision-making actions were guided by an "ethic of responsibility" characterized by practical wisdom, realism, prudence, and magnanimity (Miller, 2002).

Perhaps most importantly as a change agent leader, Lincoln felt a strong sense of responsibility toward the *organizational stewardship* of the nation—doing the right thing as an elected "steward" of the country's organizational welfare. Stemming directly from his experiences growing up as a youth witnessing firsthand the depravities and unequal treatment to which many in his society were subjected, Lincoln incrementally developed through his formative years as a circuit lawyer and later on as a political debater a *clear vision of moral leadership* grounded in strong foundational principles of social justice, freedom, and equality, and centered on the compelling need to serve the "greater good" of all of society. As a lawyer, Lincoln's moral leadership thinking was anchored solidly in his legal understanding of and dedication to the United States Constitution, a visionary document that had been painstakingly crafted by the nation's founding fathers. This moral leadership thinking was also tempered and vitalized by Lincoln's continual willingness—motivated by a genuine conciliatory spirit—to engage in *pragmatic political compromise* whenever such compromise would advance the causes of peace and national unity. Lincoln's willingness to engage in political compromise emanated from his ongoing, careful analysis of the practicalities of what was "politically possible in context" at any given time. As a result, Lincoln's persuasiveness as an organizational change agent leader can be traced to a unique combination of leadership traits, namely: his unique ability to articulate powerful and clearly reasoned *moral arguments* supported by constitutionally sanctioned legal principles and his pragmatic prowess in being able to ground these arguments in a solid sense of the *practical possibilities of action* in real political contexts. Throughout his public service career Lincoln used his clear moral leadership vision focused on social justice, freedom, and equality for all people in concert with his predilection for practical conciliation and compromise as guiding lights to inform and validate his leadership decision-making and actions. Taken together, this defining set of personal characteristics and interpersonal leadership traits (i.e., *empathic listener, relational coalition builder, moral leadership visionary and decision maker, artful compromiser, and practical organizational steward*) contributed directly to Lincoln's success as an organizational change agent and national leader.

Intriguingly, during his time as president Lincoln was often able to apply his unique leadership talents to find creative ways to capitalize on the intense friction existing among the conflicting values and beliefs held by multiple political groups: pro-slavery sympathizers who were committed to the perpetuation of slavery as a national institu-

tion; conservative republican thinkers who favored a negotiated northern-southern peace as a precondition to moving forward with the constitutional abolishment of slavery; and liberal-minded radical republicans who supported the immediate abolition of slavery as a moral necessity. Lincoln creatively tapped into and leveraged this *multi-perspectivist conflict* to his advantage. Indeed, his creative change agent strategizing as a national leader was in evidence early on in his presidential political leadership. In the months immediately preceding his inauguration in March 1861 and the initiation of his first term as president, Lincoln worked purposefully to bring together and fashion an executive administrative cabinet that was comprised of an array of seasoned statesmen and political leaders who espoused a variety of conflicting views and beliefs. Thus, Lincoln intentionally orchestrated his executive cabinet to function as a “team of rivals” (Goodwin, 2005): disparate individuals with differing political views who were brought together in close proximity in regular executive cabinet meetings for the express purpose of engaging in a high form of *transformative political discourse*. In so doing, Lincoln was able to utilize his own executive cabinet as an immersive, interactive arena for the critical examination of multiple beliefs, perspectives, and decision-making strategies—an “organizational leadership incubator” within which to openly debate conflicting views and alternative paths of action and explore creative compromise solutions to the nation’s political challenges.

Lincoln’s change agent leadership abilities in being able to creatively (and repeatedly) tap into the passion and energies of those around him harboring conflicting views and perspectives—and, in doing so, artfully leverage this conflict as a catalyst for positive change through transformative political discourse—is portrayed exceptionally well in the *Lincoln* movie (Spielberg, 2012). Steven Spielberg’s *Lincoln* (2012) movie is a cinematic retelling of the organizational and political challenges Lincoln confronted during the early months of 1864 in working to secure passage of the Thirteenth Amendment to the United States Constitution (the amendment that abolished slavery forever in the American nation). The *Lincoln* (2012) movie is especially revealing of Lincoln’s organizational leadership abilities as it presents a wonderfully succinct and compelling portrayal of Lincoln’s essential *breakthrough leadership* attributes as a visionary change agent, namely: 1) his clear-visioned and pragmatic organizational thinking; 2) his propensities toward (and skill at) relational coalition building; and 3) his incisive moral leadership thinking and decision making. A succession of scenes in the *Lincoln* (2012) movie deftly showcases Lincoln’s considerable relational coalition-building skills as he works to build bipartisan congressional support to ensure passage of the Thirteenth Amendment to the US Constitution in the House of Representatives. His coalition-building propensities are in clear display in the movie as he works incessantly to nurture collaborative understandings with elected congressmen in pursuit of practical compromise to advance progress toward peace and national unity. As the heated partisan debate over the merits of the proposed Thirteenth Amendment continues in the House of Representatives, one brief scene midway along in the movie captures well Lincoln’s skill in communicating with a riveting clarity to others the essence of his

moral leadership thinking and in using the persuasive appeal of his clear reasoning to nurture political coalitions. The scene depicts a conversation between Lincoln and George Yeaman, a young congressional representative and a Democrat (affiliated with the political party opposed to the Thirteenth Amendment). In this brief exchange, Lincoln paints a vivid mental picture for this Democratic congressman that illuminates Lincoln's views on slavery and the moral imperative that undergirds his efforts to secure passage of the Thirteenth Amendment: George Yeaman hesitatingly tells Lincoln, "*I can't vote for the amendment, Mr. Lincoln.*" Gazing forthrightly and compassionately at this congressman Lincoln responds, "*I saw a barge once, Mr. Yeaman, filled with colored men in chains, heading down the Mississippi to the New Orleans slave markets. It sickened me, 'n' more than that, it brought a shadow down, a pall around my eyes. Slavery troubled me, as long as I can remember, in a way it never troubled my father, though he hated it, in his own fashion. He knew no smallholding dirt farmer could compete with slave plantations. He took us out from Kentucky to get away from them. He wanted Indiana kept free. He wasn't a kind man, but there was a rough moral urge for fairness, for freedom in him. I learnt that from him, I suppose, if little else from him.*" Upon listening thoughtfully to Lincoln's story, Yeaman proffers a tentative reply: "*I hate it, too, sir, slavery, but—but we're entirely unready for emancipation. There's too many questions.*" Lincoln then counters with an insightful reply acknowledging future uncertainties but also sharpening the focus on the political realities of the present moment: "*We're unready for peace, too, ain't we? When it comes, it'll present us with conundrums and dangers greater than any we've faced during the war, bloody as it's been. We'll have to extemporize and experiment with 'what' it is 'when' it is. What's before us now, that's the vote on the Thirteenth Amendment. It's going to be so very close. You see what you can do*" (Kushner, 2012: pp. 123-125).

Another subsequent scene in the *Lincoln* (2012) movie showcases vividly the manner in which Lincoln was able to leverage his remarkable moral leadership thinking and decision-making clarity in combination with his strong, action-oriented leadership temperament to challenge his executive cabinet "team of rivals" to move past their endless, discordant debate and resulting hesitancy toward political action and see more clearly the compelling *moral leadership choice* that is presently before them and regarding which there is only limited time to act. In this scene Lincoln is shown in a late evening meeting with members of his executive cabinet and some moderate congressional republicans. The cabinet members and congressional republicans present are engaged in intense debate over the questionable merits (in their minds) of Lincoln's brash efforts in attempting to move swiftly (while the country was still immersed in civil war) to secure immediate passage of the Thirteenth Amendment to the US Constitution (the amendment that would abolish the institution of slavery forever in the union). Lincoln patiently allows his "team of rivals" to critically dissect (through advance consequence analysis and political strategizing) Lincoln's proactive change agent leadership tactics from multiple angles, but then forcefully interrupts them when it becomes evident that his executive team cannot comprehend the need to take bold leadership action: "*I can't*

listen to this anymore! I can't accomplish a goddamned thing of any human 'meaning or worth' until we cure ourselves of slavery and end this pestilential war, and whether any of you or anyone else knows it, 'I know I need 'this'! This amendment is that cure! We're stepped out upon the world's stage now, 'now', with the fate of human dignity in our hands! Blood's been spilt to afford us this moment!" Lincoln surveys the cabinet members and congressional leaders assembled around him with a determined stare and demands that they comprehend the realities of the moment and take immediate action: *"Now, now, now! And you grouse and heckle and dodge about like pettifogging Tammany Hall hucksters! See what is before you! See the here and now! That's the hardest thing, the only thing that accounts! Abolishing slavery by constitutional provision settles the fate, for all coming time, not only of the millions now in bondage but of unborn millions to come"* (Kushner, 2012: pp. 127-128). This scene showcases in dramatic fashion Lincoln's ability to "focus" his organizational thinking and bring it to bear incisively in strongly challenging his executive cabinet to think more clearly about the challenging issues confronting the country and the kind of insightful decision-making leadership these issues demand. Lincoln's brilliance as an organizational change agent leader—and his keen insight into the *transformative power of focused political discourse* (when this discourse is grounded solidly in moral leadership first principles)—becomes evident in this scene (and also in related scenes through the course of the movie) as he artfully chastises, cajoles, and inspires the members of his own executive cabinet, as well as the larger numbers of political operatives and congressional leaders around him, to consider the nation's challenges *reframed in the light of moral reason* and redouble their efforts to work together toward political consensus on the critical issues before them. Lincoln's inspiring moral leadership and his call to decisive action is unwavering and focused intently on fulfilling his passionate desire as the nation's president to empower and enable his countrymen to move forward together in positive ways toward achieving political reconciliation and national unity.

Extending from the above executive cabinet example, one of Abraham Lincoln's unique strengths as a change agent leader throughout his presidency was his uncanny ability to clearly and insightfully decipher the political motives—and underlying *values* and *beliefs* fueling these motives—of the congressional statesmen and political operatives around him. Lincoln regularly used these interpersonal readings to inform his own ongoing efforts as president to encourage and nurture practical compromise among multiple political factions to guide the passage of congressional legislation that could result in positive organizational change for the nation. In this regard, Lincoln possessed considerable skill in being able to identify and zoom in on the essential contentious elements fueling multi-perspectivist political conflict and then to creatively leverage this conflict as a catalyst for enacting positive organizational change. In this sense, Abraham Lincoln—the American nation's sixteenth president—was both a master analyst of individual and group political motivation and a clear-sighted visionary who had the uncanny ability to distill from the din of competing partisan interests and conflicting perspectives of those around him realistic and achievable *organizational*

goals grounded in solid *foundational principles*. As an insightful organizational change leader, Lincoln used these principles and goals, once established, to serve as guiding lights to illuminate multi-stakeholder collaborative efforts focused on achieving workable compromises that could enable the American nation to move forward in positive ways.

2.2. Breakthrough Leadership Thinking in Artistic Expression: Jackson Pollock and the Revelation of Order within Complexity

Jackson Pollock (b. January 28, 1912—d. August 11, 1956) was one of a number of post-depression era twentieth-century American painters, along with other contemporary artists of the same generation such as Arshile Gorky (1904-1948), Robert Motherwell (1915-1991), and Willem de Kooning (1904-1997), who came to be associated with a new artistic avant-garde of this time period. These painters all sought in their own ways to leverage their creative abilities to break out of the confines of traditional modes of painting and to identify new avenues of expression in the visual arts. However, Jackson Pollock—as a result of his inventiveness and predilection for aggressively pushing the boundaries of traditional artistic expression—eventually came to be regarded as one of the most brilliant, illusive, and iconoclastic of this cadre of twentieth-century American painters. Artistic movements to a certain degree evolve, in part, as a reaction to previous historical styles and aesthetic tastes (e.g., mid nineteenth-century romantic painters expressing the humanist revolutionary spirit in their expansive canvases; late nineteenth-century impressionist and pointillist artists capturing nature’s shimmering light and color; early twentieth-century cubist painters exploring deconstructivist approaches to representing forms and images). During his short lifetime, Pollock emerged as a dynamic driving force and leader in both developing and helping to popularize a new modern artistic style—fully reflective of the psychic introspection and existential angst of the twentieth century—that came to be called *abstract expressionism*. Upon initially encountering abstract expressionist paintings of this period, early viewers were struck by the apparent “abstractness” of the texts of these paintings: what appeared to be their complete abjuration of any kind of traditional “representational approach” to depicting the world of nature and objects. However, attempting to define abstract expressionism as simply the antithesis of a more traditional representational style of painting is to misread its intent. As abstract expressionist paintings became enculturated into the twentieth-century public’s viewing experiences and as people continued to reflect on their significance, the “abstractness” of the paintings began to recede as a perceived predominant component of the artistic style while the true expressiveness of the paintings became more evident. People gradually developed the understanding that these abstract expressionist paintings were not “non-representational” of nature, but were *expressing* nature in a new way. Rather than being the antithesis of nature, abstract expressionist paintings embodied a radical new approach to the *idea of representation*: the abstract expressionist painter was seeking to evoke existentially through his paintings (and painting processes) the mental images and psychic feelings that nature

evoked in him (Haftmann, 1965: p. 330). And it was precisely in this way that the abstract expressionist style became a powerful idiographic means for twentieth-century artists who were seeking to find their own artistic footing in the decades leading up to and following the second world war—with Jackson Pollock as a leading proponent of this new expressive style—to give voice to their own expressions of the meaning of existence.

Pollock's uniqueness and contributory power as a creative artist—and, in particular, his breakthrough leadership thinking in expanding artistic boundaries in the world of visual art—can be traced to his life-long bent toward *playful experimentation*. Born in Cody, Wyoming as the youngest sibling in a family of five boys and growing up working with his father (an itinerant farmer and government land surveyor) in the hard-scrabble environment of Arizona and California in the American West, Jackson Pollock learned early-on how to make do with the natural objects and materials around him. As Pollock continued to develop and refine his artistic talents as a young man, he evolved rapidly into a highly creative artist whose natural *modus operandi* often involved working extemporaneously with the materials around him (various kinds of paint, and all manner of sticks, applicators, and canvas surfaces). His experimentation with the tools of his painting craft reflected his need to search for and find the most effective means to enable him to visually recreate and express on canvas the mental images and psychic feelings he was experiencing. The anthropologist Claude Lévi-Strauss, investigating the learning strategies of primitive cultures, used the term *bricolage* as a conceptual means to capture the manner in which human cultural groups (primitive as well as advanced) experiment naturally with ways of knowing and understanding through pottering around with the materials and objects around them, endlessly recombining them in different ways to form *new things* and *new meanings*. As Lévi-Strauss explains: “The bricoleur is adept at performing a large number of diverse tasks. His universe of instruments is closed and the rules of the game are always to make do with ‘whatever is at hand’, that is to say with a set of tools and materials which is always finite and is also heterogeneous” (Lévi-Strauss, 1966: p. 11). In this sense, Pollock was an artistic *bricoleur*—an incessant tinkerer with the natural objects and materials around him (paint, canvases, concepts, ideas, and mental images) as means to explore the endless inventive possibilities inherent in human creativity. Some initial reviewers of Pollock's artistic output were critical of what to them appeared to be an unsettling sense of abandon and lack of control reflected in his paintings. However, these appearances were deceptive. In fact, Pollock was able to maintain a very high degree of control in his overall painting process. Videos taken of Pollock engaged in the act of painting clearly show that Pollock utilized a great deal of control via his arm, wrist, and hand movements as he paced around his canvases, and a considerable degree of mental concentration and eye/hand coordination as he surveyed the symmetrical patterning of visual motifs and their evolutionary development on his canvases. Most importantly, through his painting processes Pollock was constantly exploring new artistic possibilities in terms of being able to represent intricate patterns of color, line, and natural

rhythms on his canvases—as well as also evoking his own psychological feelings and mental images as an artist in reacting to and interacting with these patterns—all done with an artistic sensitivity toward conveying an overarching “form” and “structure”. Indeed, the recognition of form and structure in Pollock’s paintings becomes the key to grasping the *underlying meaning* inherent in these paintings and to appreciating the unique aesthetic contributions of the abstract expressionist style.

As so often happens in the history of human inventiveness, the style of abstract expressionist painting championed by Pollock during the 1930s through 1950s evolved in tandem with and was, in its own way, an artistic expression of similar ideas gaining momentum in other human spheres of activity during this same time period (e.g., new ideas promulgated in the 1920s and 1930s by Werner Heisenberg and others in the domain of physics). Of particular interest in connection with Pollock’s output in the visual arts is the work of Benoit Mandelbrot, a mathematician, who along with a number of other mathematicians and researchers in the 1950s and 1960s became acutely interested in investigating the phenomena of symmetrical, self-repeating geometrical patterns occurring in nature. It turns out that mother nature employs symmetrical, repetitive patterning as one of her fundamental design elements, and these self-repeating patterns can be readily found as the underlying “structure” making up all kinds of natural objects (twigs, tree branches, coast lines, cliffs, broccoli, clouds, snowflakes, etc.). Symmetrical, self-repeating patterns also constitute the underlying “structure” in an array of anatomical features of human and animal physiology (e.g., blood vessels, capillaries, dendrites, the aveoli in lungs). Mandelbrot, in particular, was especially interested in applying insights gleaned from his study of these self-repeating geometrical patterns—to which he gave the name *fractals* (from the Latin word *fractus* meaning “broken” or “interrupted”)—to help him better understand current, real-world problems occurring at the time in economics, finance, and information technology. Mandelbrot expounded his ideas on the remarkable self-replicating symmetry found in fractals in his seminal book *The Fractal Geometry of Nature* (Mandelbrot, 1977). Mandelbrot’s book became a classic in the scientific literature in terms of its contribution in helping researchers better understand the surprisingly simple (yet strikingly elegant) underlying mathematical symmetries comprising the “structural foundations” of a vast array of complex phenomena in nature.

Intriguingly, the paintings of Jackson Pollock mirror directly the kind of multiple symmetrical patterns repeated at different levels of scale found in naturally occurring fractals. Although Pollock’s paintings are stunning in their visual complexity, they are not “unordered” or “chaotic”. The visual abstract complexity typifying Pollock’s paintings are, in reality, a surface-level manifestation that masks a carefully conceived and well-defined underlying *structural order*. The aesthetic meaning of Pollock’s paintings is anchored in and generated through this underlying structural order. The abstract expressionist paintings of Pollock are above all *expressive*—they have a quintessential lyric quality that derives from the repetition of simple but clearly articulated geometric patterns that serve as underlying “organizing motifs” that guide the physical evolution

of Pollock's paintings as they take shape on the canvas. These motifs serve as the overarching generative ideas that define Pollock's abstract expressionist painting process. The motifs provide a visual and aesthetic "structure" and coherent "unity" to each painting. In a most intriguing way, Pollock's paintings reveal the stark simplicity underlying complexity. Moreover, in his paintings Pollock demonstrates a highly developed sensitivity to the fundamental importance of artistic form and structure. The diverse array of paintings comprising Pollock's collective oeuvre constitutes a testament to his life-long quest to give visual expression to his own intuitive sense as an artist of the *unifying power* of form and structure. In this sense, there is a palpable "rarified refinement" to Pollock's canvases that renders them both visually striking and immensely appealing.

Pollock became celebrated during his lifetime both for the new sensational style of painting he was championing and for his unorthodox painting techniques. A provocative feature article on Jackson Pollock appearing in the August 8, 1949 issue of *Life* magazine (a popular "society and culture" photojournalism monthly print publication circulated and widely read in America in the 1940s just prior to the onset of the television age) entitled "Jackson Pollock—is he the greatest living painter in the United States?" provided details of Pollock's style of abstract expressionist painting and turned him overnight into an *infant terrible* icon of the American artistic avant-garde. In particular, the article chronicled Pollock's highly idiosyncratic painting techniques: eschewing traditional brush and easel, he would lay large canvases on the ground or on the floor in his work shed and surround himself with quart cans of aluminum paint and multiple hues of ordinary household enamel. He then would proceed to pace energetically around his large canvases while literally flinging the paint onto his canvas surfaces using a variety of sticks and/or pouring the paint directly from the paint cans. Offering his own explanation of his unusual technique, Pollock stated in a self-reflective article published in the winter of 1948 in the small periodical magazine *Possibilities* 1: "*My painting does not come from the easel. I hardly ever stretch my canvas before painting. I prefer to tack the unstretched canvas to the hard wall or the floor. I need the resistance of a hard surface. On the floor I am more at ease. I feel nearer, more a part of the painting, since this way I can walk around it, work from the four sides and literally be 'in' the painting. This is akin to the method of the Indian sand painters of the West. I continue to get further away from the usual painter's tools such as easel, palette, brushes, etc. I prefer sticks, trowels, knives and dripping fluid paint or a heavy impasto with sand, broken glass and other foreign matter added*" (Harrison & Wood, 2003: p. 571). As the *Life* magazine feature article further reported, Pollock liked to be free to "scramble around his canvases", attacking them from the top, bottom, and sides. Indeed, Pollock experimented quite freely as an artist throughout the course of his lifetime, and his painting techniques changed with his thinking over his two and a half decade career of active painting (1930s through mid-1950s). By the late 1940s and early 1950s when Pollock's artistic thinking had coalesced into the unique abstract expressionist style that would secure his fame (while he was working on producing his large canvas "drip

paintings”), his painting technique had essentially evolved into a kind of choreographic tracing of his inner psychic improvisations onto large, mural-sized pictorial spaces. Pollock’s most famous “drip paintings” from this period—including *Autumn Rhythm: Number 30* (1950, oil on canvas: Metropolitan Museum of Art, New York); *Number One (Lavender Mist)* (1950, oil, enamel, and aluminum on canvas: National Gallery of Art, Washington DC); and *Blue Poles: Number 11* (1952, enamel and aluminum paint with glass on canvas: Australia National Gallery, Canberra)—are stunning examples of the power of abstract expressionist art to visually convey the underlying orderliness and structural beauty inherent in complexity. These large murals with their expansive complex spaces, symmetrical patterns, and integrated conceptions of line, color, and form inexplicably invite the viewer to mentally enter in and become a part of each painting—to experience the creative flow of the painting and, in doing so, perhaps get a sense of the psychological images and feelings the artist may have experienced during its creation. And, in conjunction with this, Pollock himself provides some intriguing insights into the psychological sources of his art: “*When I am ‘in’ my painting, I’m not aware of what I’m doing. It is only after a sort of ‘get acquainted’ period that I see what I have been about. I have no fears about making changes, destroying the image, etc., because the painting has a life of its own. I try to let it come through. It is only when I lose contact with the painting that the result is a mess. Otherwise there is pure harmony, an easy give and take, and the painting comes out well. The source of my painting is the unconscious*” (Harrison & Wood, 2003: p. 571).

Jackson Pollock’s unique combination of traits—namely: a life-long penchant for engaging in *playful experimentation* with multiple modes of artistic expression; a *creative bricoleur* approach both to the formulation of his painting ideas and to his painting craft; and an *intuitive sensitivity* in being able to identify with and evoke the zeitgeist of his age—equipped him well to develop and refine his breakthrough leadership thinking as an artistic iconoclast and stylistic trailblazer. Most importantly, Pollock’s pioneering spirit and relentless determination to explore new modalities of creative expression in his own art—modalities that could convey both the intricate beauty of complexity *and* its underlying unifying order—enabled him to expand aesthetic boundaries in the world of painting and open up new creative possibilities for other artists, both in his own generation and in subsequent generations.

2.3. Breakthrough Leadership Thinking in Educational Practice: Jaime Escalante and the Equalizing Potential of Educational Opportunity

Each year thousands of dedicated teachers throughout the United States work tirelessly in their individual school and district settings to develop effective classroom environments and provide ongoing positive learning support to their students. However, there are few teachers in America who have done these things in such a spectacular way—and who have received such national attention and critical acclaim for their teaching efforts—as Jaime Alfonso Escalante (b. December 31, 1930—d. March 30, 2010). Jaime Escalante’s life is an inspiring story of one strong-willed and dedicated individual who

persevered in pursuing his dream of succeeding as a professional educator and making a difference in the lives of marginalized students. After moving to the United States from Bolivia in December 1963, Escalante worked to obtain his American teaching credentials and was employed as a math teacher from 1974 to 1991 at Garfield High School in Los Angeles Unified School District. One of several high schools situated in the working class neighborhoods of East Los Angeles, Garfield High School's student population during the 1970s and 1980s included a high percentage of Hispanic (Mexican-American) students mostly from low-income immigrant families (note: a large and ever-expanding Hispanic population demographic in the Los Angeles urban area as well as throughout southern California continues to be a primary population growth trajectory in this southwestern region of the United States). Indeed, a majority of the children living in East Los Angeles and attending Garfield High School at the time were Mexican Americans, either immigrants themselves or the children of Mexican immigrants. These immigrant families lived predominantly in low-income households with Spanish as the primary language spoken at home. Parents of these immigrant families would lose and/or have to switch jobs frequently. Students from these families were often absent from school for a variety of reasons: sometimes they were needed by their parents to baby-sit younger siblings, run errands, help translate for their parents at business and medical appointments, etc. Moreover, these students had to contend with neighborhood conditions that bred rampant crime and violence, in addition to dealing with the challenges of succeeding in school. As an educator at Garfield High School, Jaime Escalante produced spectacular teaching and learning results in this very difficult educational setting through inspiring these low-income, Mexican-American students to learn how to perform to their full capacities. His inspirational teaching prowess in challenging and coaching his students at Garfield High School *to believe in themselves and in their own learning potential* enabled these students to achieve unlikely academic success.

After a period of intensive preparation, in which Escalante carefully coached his most academically talented students in his own well-honed math thinking and problem-solving methods in before- and after-school and Saturday teaching sessions, eighteen students in Escalante's 1981-1982 calculus class took the Advanced Placement (AP) Calculus Exam administered by the Educational Testing Service (ETS) in Spring 1982. Escalante had poured all of his teaching energies and hard-won "street-sense" mentoring strategies into working to convince these East Los Angeles low-income "barrio kids" that they had what it takes to succeed on this extremely difficult exam, an exam that could become a ticket to opening up new future study and career opportunities for these underprivileged students (students passing the AP Calculus Exam receive college credit in math). All eighteen students received passing scores on the exam, but because of the marked similarity in specific math problem-solving procedures used by many of the students on their AP calculus exam worksheet answers—the students were closely following the same problem-solving steps and using the same unusual variable names that Escalante had drilled into them—fourteen of these students were accused by ETS

exam reviewers of cheating. Following heated exchanges between the ETS reviewers and Garfield High School administrators in conjunction with vehement protests from Escalante himself who felt that the ETS reviewers were unjustly singling out his students because of their particular ethnic minority profile—and some intense self-reflection on the part of the students themselves (guided as always by Escalante’s unwavering positive mentoring support)—twelve of the fourteen students retook the exam. All twelve students passed the exam again—*the second time around*. These students’ test taking success in the face of such high-stakes pressure and controversy was a stunning vindication of Escalante’s motivational teaching methods and his rock-solid belief in his students’ abilities in being able to step up and prove their worthiness. Moreover, the math learning and exam performance achievements of these Mexican-American students were all the more striking in that they occurred at a school that just a few years earlier (in 1975) had barely escaped losing its academic accreditation. These Garfield High School students’ learning triumphs quickly received national attention and Escalante was widely lauded across America by educators, politicians, and social commentators alike for his stunning teaching accomplishments. Twelve years later (in 1987) this same school would be producing more Advanced Placement calculus students than all but three public schools in America (Mathews, 1988: p. 4).

The roots of Escalante’s passion for education and his intense belief in the *equalizing potential of educational opportunity* can be traced back to his childhood. Born on December 31, 1930 in La Paz, Bolivia to Bolivian parents of Aymara ancestry who were both teachers themselves, Jaime Alfonso Escalante Gutiérrez [his full name follows Spanish naming customs of including both his paternal (Escalante) and maternal (Gutiérrez) family names] in his youth exhibited an endless fascination with puzzles and computational challenges of all kinds. He would constantly delight in working out detailed solutions to the problems he found at the end of the chapters in his math textbooks, rather than spending his time just reading through explanations of concepts. Escalante was a natural *applied math problem solver*: he had a special talent for internalizing key mathematical concepts and then applying these concepts logically and systematically to solve practical math problems. This natural love for applied problem solving became a strong feature of Escalante’s own style of teaching as an adult. Indeed, the teaching techniques Escalante developed and used throughout his professional teaching career were mostly self-taught. As a math teacher at Garfield High School, Escalante drew heavily from his own carefully preserved and highly valued hand-written lecture notes that he took while a student at the Normal school he attended in La Paz in working to develop customized math learning materials for his Garfield students. This kind of careful attention to working diligently to provide his students with the content-specific and customized academic materials and resources they needed for success characterized Escalante’s approach to teaching throughout his career. Perhaps most importantly, Escalante let his own distinctive personality traits—he exuded an easy wit, was a good listener, displayed genuine concern for his students’ welfare, and possessed the rare ability as a teacher to leverage disarming humor to help put students at ease as

he simultaneously challenged them to work ever harder—infuse his whole teaching style. Escalante knew how to leverage his knack for humor and genuine concern for his students to disarm even the most disrespectful gang kids. He was adept at responding with a quick-witted repartee to students' occasional disrespectful taunts and then, while his students were caught off guard, present them unsuspectingly with a mathematical conundrum—often involving athletics (such as the Los Angeles Lakers basketball team, which he was a big fan of) or popular music or culture—that managed to capture his young students' attention. That was Escalante's way as a teacher: first, interacting personally with his students and, when necessary, calling his students out on their street toughness (which he could readily relate to from his own youth), and then, luring them into the fascination of math via a captivating, real-world applied math problem. Notably, Escalante's day-to-day teaching behaviors and actions reflected a high degree of sustained professional commitment, enthusiasm, and passion for his chosen work. These characteristics, indeed, often emerge as quintessential hallmarks of genuine social change leaders: individuals who feel that—through immersing themselves wholeheartedly in the educational and social improvement work directly before them—they are fulfilling their unique personal destiny as change agents and making a real difference in the lives of others.

Escalante arrived in Los Angeles on December 24, 1963 (one of the last of 728 Bolivians to enter the United States legally in 1963) barely speaking any English (Mathews, 1988: p. 53). Although already a veteran teacher of twelve years in his native Bolivia, Escalante had to work multiple odd jobs at first while he taught himself English and completed another graduate degree that would qualify him to be able to teach in the United States. As a youth Escalante would go on regular long hiking excursions with friends during summer vacations from school, and these outdoor activities contributed to helping to develop his robust athletic physique and shaping his overall energetic attitude toward tackling, and succeeding in, the various odd jobs he obtained. In addition, Escalante had large, thick-skinned hands—hands that were toughened up and hardened from his many years of playing handball as a youngster in his native Bolivia. And these hands of his became a kind of outward symbol for the internal, hard-nosed grit and determination that Escalante cultivated and displayed all his life in mastering learning challenges, both in his own academic preparation and in his professional career pursuits. Moreover, as a teacher, Escalante was always open to *continuous learning*, to picking up useful teaching techniques and tips from other teachers. Indeed, all of Escalante's character traits from his childhood and young adulthood—his playfulness and penchant for wry humor, his love of real-world problem solving, his daring and adventuresome spirit, and his hard-nosed grit and determination—came together and intertwined to create his unique style of practical, hands-on teaching. Intriguingly, throughout his teaching career Escalante cultivated a natural *relational-intuitive teaching style*. Because his own background enabled him to identify readily with the multiple home-, school-, and life-related challenges Garfield High School's Mexican-American kids were forced to confront on a daily basis, Escalante could easily empathize with his

students. As a teacher, Escalante could understand and relate to his students' own unique, perspectivist way of thinking—he understood how his students “thought” about math and the world around them, but he could also intuit “what they were capable of evolving into” with the right kind of teaching support and mentoring guidance. Most importantly, Escalante possessed an unwavering belief in the transformative power of education as a means to help *level the playing field* for underprivileged youth. In particular, Escalante was a passionate proponent of the value of learning “higher math” (acquiring solid foundational skills in algebra and calculus) as a way to open up new college and professional career opportunities for his Mexican-American students.

Jaime Escalante's passion for teaching and his strong belief in the opportunity-generating potential of math education are conveyed convincingly in the Hollywood movie *Stand and Deliver* (Menéndez & Musca, 1988), an American drama film based on Escalante's real-life story as a math educator and change agent. The *Stand and Deliver* (1988) movie portrays the challenges Escalante faced as an educator at Garfield High School in East Los Angeles as he worked tirelessly to inspire Mexican-American students (mostly from low-income, immigrant families) at this school to believe in themselves and embrace math education as a way to build new life opportunities. As portrayed in one noteworthy early scene in the *Stand and Deliver* (1988) movie, Escalante (played by actor Edward James Olmos) would often tell his students stories about their own cultural heritage and emphasize to his students that their heritage could be an important source of pride and strength for them: “*Did you know that neither the Greeks nor the Romans were capable of using the concept of zero. It was your ancestors, the Mayas, who first contemplated the zero—the absence of value. True story, you burros have math in your blood.*” Escalante taught his students how to leverage their own cultural heritage to help them succeed in the world—and he *modeled* this constantly through his own life and his daily teaching. Escalante focused on cultivating in his students the same kind of relentless determination and tough work ethic that served him so well in his own youth and career development. As Escalante tells his students in the *Stand and Deliver* (1988) movie: “*You already have two strikes against you. There are some people in this world who will assume that you know less than you do because of your name and your complexion. But math is the great equalizer [emphasis added]. When you go for a job the person giving you that job will not want to hear your problems, and neither do I. You're going to work harder than you've ever worked before. And the only thing I ask from you is ganas (desire). If you don't have the ganas, I will give it to you because I am an expert.*” For Escalante, “ganas” meant the ability to be able to recognize and confront difficult life odds, and to do so with passion and a forceful desire to win. And Escalante worked unceasingly to instill this sense of “ganas”—this passionate desire *to play defense and win*—in his students. In the world of education, one tried and true way to win, to prove your worthiness, is to succeed on formal exams. However, Escalante realized that one problem with the American educational system at the time was that teachers often gave their own tests to their students, so there was no real teaching and learning accountability. In Bolivia, exams were de-

veloped and given to students by another teacher from a different school (Mathews, 1988: p. 36). That is why Escalante really liked the “objectivity” of the Advanced Placement (AP) calculus exam: it was developed and administered by outside individuals. The Advanced Placement calculus exam became the specific learning performance challenge that Escalante would motivate his students to prepare for to prove their academic worthiness. Escalante and his students became a *teaching and learning preparation team* tackling together the challenges of conquering the math conceptual application and problem-solving rigors of the AP calculus exam. Through working hard to prepare for and take the AP calculus exam—and then retaking it to prove their math abilities in the face of bureaucratic questioning—Escalante’s students (both in his 1982 class and in even larger classes in subsequent years) displayed their true *ganas* in being able to “play defense and win” (Byers, 1996: p. 98). Most crucially, these students—Mexican-American barrio kids from working class immigrant neighborhoods in East Los Angeles—had internalized and learned how to display real *ganas* through their own actions and their uncompromising spirit and fierce dedication to the achievement of their learning and career development goals. More than anything else, Escalante had taught his students the importance of setting the bar high and striving for success in their lives—through *believing in oneself and pursuing worthy ideals*—no matter what the obstacles or what the odds. As a fitting tribute to his extraordinary inspirational teaching accomplishments, Jaime Escalante was awarded the Presidential Medal for Excellence in Education in 1988 by United States President Ronald Reagan.

Everyone has a favorite teacher whom they hold in their memory throughout their life, an individual who is immensely inspiring as a teacher and who, through his or her teaching, serves as a life model of determination for their students—an exemplar for how to persevere and how to live a worthy life. In Escalante’s own words, “*Don’t quit. If you quit you disintegrate yourself. I don’t recommend to give up. Each of us remembers the great teacher: the one who touched our life, the one who give[s] us encouragement. A person has to do the best. As a teacher what I do is I combine a passion with the subject I teach. I create, innovate my teaching constantly. I do not make comments—I discover them. That’s what my assignments are.*” (Escalante, 2008: The Futures Channel Youtube video “Jaime Escalante On Being a Teacher”) Even toward the very end of his life as he was fighting his own final battle with terminal bladder cancer, Escalante—weak from his illness but ever the teacher—continued to display his signature intense grit and determination to learn and live nobly in the face of life’s challenges when he told a video news interviewer in March 2010, “*You don’t count how many times you are on the floor. You count how many times you get up.*” (Escalante, 2010: CBS video news interview) Through leveraging his own unique gifts as an inspirational teacher and life mentor and acting forcefully as an advocate for the learning potential of marginalized students in his own place and time, Jaime Escalante impacted in positive ways the lives of large numbers of Mexican-American youth (as well as youth from other cultural backgrounds) both during his own teaching career and through his legacy to future generations of teachers and students. Most importantly, Jaime Escalante,

the inspirational teacher, became—for people everywhere who aspire to develop their talents and achieve success in their lives—a model of true “*ganas*”: of how to *play defense and win*.

2.4. Breakthrough Leadership Thinking in Information Technology: Douglas Engelbart and a Pioneering Vision of Interactive Computing

The twentieth century was notable for numerous scientific and engineering breakthroughs that have proven instrumental in changing both the levels and nature of human productivity. The last several decades of the twentieth century, in particular, brought unprecedented advances in digital computing: both basic technological advances in raw computing power and dramatic innovations in the ways people interact with and use computers. One of the visionary architects of this innovative revolution in digital computing was Douglas Carl Engelbart (b. January 30, 1925—d. July 2, 2013). Born before the dawn of digital computers, Douglas Engelbart was destined to apply his particular gifts—his natural engineering design acumen and creative bent toward practical problem solving—to develop successful prototypes of some of the core human-computer interface technologies that would evolve into foundational staples of the emerging digital information age.

From an early age Engelbart displayed a natural, practical ingenuity and talent for mechanical problem solving. Engelbart’s natural gift for mechanical problem solving, in particular, would serve him well later in his professional career when he would begin to investigate the unique engineering and interface requirements needed for effective human-computer interaction. Engelbart’s early applied-engineering experiences consisted of his work with radar consoles in the United States Navy following World War II. Engelbart’s two years in the navy, including one year working as a radar technician in the Philippines, focused his engineering skills and attention on the information and interactive display characteristics of radar consoles. It is likely that Engelbart began to conceive and develop his pioneering vision of interactive computing—i.e., humans interacting with computers through organizing and manipulating symbols on a workstation display that would control all information and communication processing—from his early work with radar console screens. Engelbart’s collective insights gleaned from his early engineering work as a radar technician stayed with him as he began to focus on pursuing his life work: tackling the complex challenges involved in human-computer interaction. As his professional career continued to develop, Engelbart increasingly directed his strong, practical-minded *applied engineering sensibilities* to the task of thinking about the possibilities of personal and social-interactive computing.

Engelbart’s own thinking on the potential of interactive computing had been greatly influenced early-on in his career while still a student by his own careful reading of an essay by Vannevar Bush, entitled “As We May Think”, which was first published in July 1945 in the *Atlantic Monthly*, an American print circulation magazine. In this ten-page essay, Bush put forth the idea of the “memex”—an envisioned information-organizing device based on new technologies that were expected to be emerging in the very near

future (i.e., microfilm reels, multiple screen viewers and cameras) that could enable the collection and systematic organization of a vast body of human knowledge that could be stored and accessed easily (Bush, 1945). In reviewing the contribution of Vannevar Bush's seminal thinking in the broader context of the historical development of information literacy, Bill Johnston and Sheila Webber have pointed out that Bush's paper could indeed be regarded as "describing a microcosm of the information society, with the boundaries tightly drawn by the interests and experiences of a major scientist of the time, rather than the more open knowledge spaces of the twenty-first century. He was looking forward speculatively to where we now are" (Johnston & Webber, 2006: p. 109). Engelbart came across Vannevar Bush's 1945 essay shortly after it was published and read it with intense interest. Engelbart absorbed Bush's forward-looking ideas and integrated them into his own evolving engineering-based thinking regarding the practical interface design challenges associated with operationalizing the idea of human-interactive computing. Vannevar Bush's seminal ideas continued to influence the development of Engelbart's own computer engineering thinking moving forward, which Engelbart later presented in coherent form in two visionary manifestos: "Special Considerations of the Individual as a User, Generator, and Retriever of Information" (Engelbart, 1960/1961) and "Augmenting Human Intellect: A Conceptual Framework" (Engelbart, 1962). These two manifestos crystallized Engelbart's ideas on the potential of computers as *collaboration tools* in which multiple people would be able to interact with each other through their computer display terminals in real time. In essence, Engelbart's breakthrough insight was that he realized that—with an appropriately engineered interface design—people would be able to *collaborate with each other through computers*. More specifically, Engelbart envisioned computers as interactive devices that could "augment" human intelligence in real ways through *collaborative problem solving*. The core idea at the heart of Engelbart's thinking was that through using a series of workstations connected to a computer, multiple people would be able to simultaneously leverage the computer's textual and graphical display capabilities in conjunction with the computer's raw computational power to share, discuss, and evaluate creative ideas in real time and, in so doing, greatly expand the computer users' collective reasoning and creative problem-solving potential. Moreover, of special importance to Engelbart's way of thinking, the collective problem-solving power that computers could make possible would finally enable people to work together synergistically to develop long-term solutions to the world's increasingly tough problems (population growth, economic inequality, environmental pollution from industrialism, etc.).

Engelbart continued to develop and refine his creative interactive-computing interface designs while working at the Stanford Research Institute (SRI) in Menlo Park, California over the next several years. Engelbart became head of a team of research staff at the Augmented Human Intellect Research Center (later shortened to Augmentation Research Center or ARC) at SRI, which he directed with funding support from the Advanced Research Projects Agency (ARPA) of the US Department of Defense and the US National Aeronautics and Space Administration (NASA). In pursuing ARC funded de-

velopment projects with his research team, Engelbart consistently remained true to his central vision of computers as being a tool for human-interactive problem solving—the vision which he had articulated in his 1962 “Augmenting Human Intellect” manifesto. Fundamental to Engelbart’s vision were the interrelated ideas of *bootstrapping* and *coevolution*. Engelbart knew that the very first users of his newly developed “human intellect (human-computer) augmentation system” would be computer programmers. Engelbart envisioned that these first programmers would use the new human intellect augmentation system by naturally leveraging the output they generated from the human-computer system through feeding it back directly into the system as a logical means to continuously refine and further develop the system. In essence, this would create a kind of *continuous feedback and refinement loop* in which the human-computer augmentation system (humans leveraging computers and collaborating together to solve problems) would continuously evolve. The programmers operating the human-computer augmentation system would utilize the system’s existing resources and feed the system’s output back into the system (*bootstrapping*). The programmers would then continue to work with the human-computer augmentation system to develop better ways to more efficiently evolve and optimize the augmentation system—in essence, the programmers and their technology would coevolve together (*coevolution*). The principles of bootstrapping and coevolution were the two powerful seminal ideas that continued to drive Engelbart and his research team as they worked to develop prototypes of a number of human-computer interface designs and technologies that would become essential core components of the future scientific and personal computing revolutions.

In an interactive computing demonstration that would later achieve legendary status and be remembered by technology developers and computer scientists as the “mother of all [computing] demos”, Engelbart debuted his revolutionary new interactive computing inventions and techniques at the Association for Computing Machinery/Institute of Electrical and Electronic Engineers Computer Society Fall Joint Computer Conference held in San Francisco in December 1968. This Joint Computer Conference was one of a number of high-profile annual national conferences that were being held at the time to serve as interactive venues for computer scientists and engineers interested in sharing, reviewing, and disseminating the latest ideas and advances in the emerging computer field. Engelbart’s December 9, 1968 Fall Joint Computer Conference interactive computing presentation—a now legendary “new technologies” presentation that included a remarkable demonstration of his visionary new interactive computing techniques—generated tremendous excitement among the more than one thousand leading world computer scientists in the audience. During this 90-minute public multimedia presentation, Engelbart sat at a table in front of a computer display, which he operated with a keyboard and controlled with a “computer mouse” (his own invention which he had just developed four years earlier), and proceeded to unveil the possibilities of a *networked, interactive computing system*—a system that could empower collaborating scientists to engage in rapid and reliable information sharing and communication. In

this single presentation/demonstration (which was projected onto a 22-foot-high video screen behind him), Engelbart premiered a raft of visionary new mouse-controlled interactive computing techniques, including: collaborative real-time text editing, shared screen video conferencing, teleconferencing, word processing, hypertext (both in text and in graphics), hyperlinking, hypermedia, object addressing/dynamic file linking, bootstrapping, and multiple windows screen environments with view control flexibility. These interactive computing techniques—“experimental technologies” at the time of Engelbart’s presentation—have all since become commonplace features of the interactive work and personal computing environments of people throughout the world. Engelbart’s 1968 presentation was a watershed moment in the history of the development of interactive computing and a revelation to the one thousand-plus conference attendees on the potential of interactive computing as a new, powerful tool for the information age. As stated on the Stanford Research Institute (SRI) International archive website: “It [Engelbart’s 1968 demo] changed what was possible. The 1968 demo presaged many of the technologies we use today, from personal computing to social networking. The demo embodied Doug Engelbart’s vision of solving humanity’s most important problems by using computers to improve communication and collaboration” ([SRI International Web Archive, 2008/2016](#)). Engelbart and his research team continued to refine the interactive human-computer interface inventions and collaboration techniques that were premiered at the 1968 Joint Computer Conference demo. By 1971 Engelbart and his team had further developed (i.e., bootstrapped) their human intellect augmentation system into a fully functional personal computer network, which they named NLS (for oN-Line System). It was Engelbart’s pioneering computing vision and persistent belief in the creative possibilities that could be realized through tackling and solving the challenges of human-computer interaction that enabled the development of this personal computing network prototype. As has been noted by chroniclers of the history of computing, Engelbart “invented an entire [human-computer interaction] system, based on his philosophy of designing computers around people’s needs and capabilities. The NLS, more than anything else of its time, is unmistakably the precursor and future ideal of today’s world of networked personal computers, allowing collaboration, communication, and creativity. Engelbart played a pivotal role in making computers human friendly and interactive by setting up the first computer research center founded on these principles. Word processing, the mouse, hypertext, windows, spreadsheets, graphics, computer games, and the World Wide Web all owe a great debt to Engelbart’s NLS” (Brate, 2002: p. 139).

Engelbart is now widely recognized today as the visionary inventor of the original precursors to the graphical user interface, shared-screen teleconferencing, and context-sensitive help, in addition to being the inventor of the computer mouse. These pioneering inventions of the 1960s—all emerging as a result of the sustained efforts of a computer engineering visionary focused on developing practical, working solutions to identified human-computer interactive challenges—continued to evolve in the 1970s and 1980s to become key enabling technologies that are now essential interface de-

sign components and social interaction features of the digital computing and internet age.

3. Analysis and Discussion of the Four Change Leader Cases

This section presents an in-depth analysis and discussion of the specific *breakthrough leadership thinking processes* reflected in the core values, beliefs, behaviors, and actions of the four social change agent leaders highlighted in the preceding career profiles. The individual analyses presented below focus on “deconstructing” (i.e., reverse engineering or parsing out) the intuitive foundational logic undergirding the *breakthrough leadership thinking in context* of each of the four change agent leaders profiled. This leadership thinking “deconstructive analysis process” involves three steps: first, examining each leader’s core values and beliefs; second, investigating how each leader’s core values and beliefs served as powerful catalysts to help the leader formulate new breakthrough leadership insights; and third, reflecting on how each leader was able to leverage the breakthrough leadership insights acquired to generate a new organizational sense-making (i.e., meaning) metaphor to enable and support positive social change. This three-step “deconstructive” process is being used here as a practical analytic means to explore and elucidate the underlying foundational logic informing the breakthrough leadership thinking of each of the four exemplary change leaders examined in the present multiple case study.

3.1. Breakthrough Leadership Thinking for Social Justice

The breakthrough leadership thinking processes of two change agent leaders—Abraham Lincoln and Jaime Escalante—are examined in this first analysis subsection. Following an individual analysis of each leader, a comparative analysis is then presented highlighting the unique change agent thinking and actions of these individuals that warrant these two leaders being identified as *social justice* change agents.

Abraham Lincoln

In surveying the historical record of Abraham Lincoln and his pivotal role as a national change agent leader during the American Civil War, undoubtedly the central *change agent leadership* challenge Lincoln faced as the sixteenth president of the United States during this decisive period in the American nation’s history involved the difficult *moral choice* he had to make between: 1) taking the easier route of engaging in administrative “satisficing” and “appeasement” to try to placate multiple, conflicting political party factions (a tactic that always results in organizational inaction); or 2) finding creative ways to inspire the country’s congressional leaders (and, more broadly, the American people in general) to reframe their thinking based on higher moral principles and a larger vision of organizational purpose and national unity. Lincoln’s *breakthrough leadership thinking*—characterized by his strong “moral leadership convictions” tied to his unwavering commitment to resolute “decision-making action”—enabled him to choose the latter. Lincoln did so through applying his change leadership skills to find creative ways to bring the people around him together to use their mul-

ti-perspectivist conflict as a catalyst for realizing positive organizational change. Most crucially, as a change agent leader Lincoln was able to leverage the tremendous suffering and human casualties inflicted on the nation during the American Civil War as an opportunity to expand and deepen the “national conversation” from that of one focused predominantly on *economic self-interest and states’ rights* to a much larger conversation that centered on issues of *human equality, freedom, and social justice* for all people. Lincoln recast this national conversation most effectively in his *Gettysburg Address* (Lincoln, 1863). Of all of Lincoln’s speeches, the Gettysburg Address is perhaps his one speech that most vividly showcases the clarity and persuasiveness of his breakthrough leadership thinking. In his Gettysburg Address, given on November 19, 1863 at the dedication of the Soldiers’ National Cemetery in Gettysburg, Pennsylvania to honor the fallen soldiers who had fought so bravely four and a half months earlier on July 1 through July 3, 1863 at the Battle of Gettysburg, Lincoln—in the span of just ten sentences and 272 words—succinctly and eloquently summarized for the American people the deeper meaning and purpose of the struggle in which they, as a nation, were currently engaged. Most importantly, Lincoln succeeded in his Gettysburg Address in *elevating the national discourse* regarding the larger meaning of the war to a new, higher plane through connecting the war historically to the beginnings of the nation and the principles upon which the nation was founded. In raising the national discussion about the purpose of the war to a higher plane Lincoln redefined the “moral-organizational meaning” of the American Union—such that in this redefinition *equality* was now given prominence alongside *freedom* as core foundational and unifying social principles.

The specific breakthrough leadership insights that undergirded Lincoln’s line of thinking, which he put forward in his Gettysburg Address, were twofold: first, Lincoln’s own understanding of the Founding Fathers’ *ideal vision* of a nation focused on freedom and equality for all that was articulated in the United States Constitution; and second, his realization that he (Lincoln), as US president in the 1860s, had to *re-direct, re-commit, and re-dedicate* the American people to this noble, illusive ideal—that is, to work together toward becoming a nation that ensured complete equality and freedom for all. Of course, the development of the American nation as one focused on the pursuit of equality and freedom for all was the original breakthrough leadership insight—the breakthrough insightful *experiment*—of the American nation’s Founding Fathers themselves, a breakthrough leadership insight grounded squarely in eighteenth-century Enlightenment thinking. And, it was these breakthrough leadership insights that became the mental stimulus that enabled Lincoln to arrive at a new “organizational meaning metaphor” for the country, which he articulated with great artfulness in the 272 words of his Gettysburg Address. Through his Gettysburg Address Lincoln was able to change the sense-making metaphor in people’s minds for understanding the broader “meaning” and larger “purpose” of the war from: “Civic War as *struggle over slavery, economic interests, and states’ rights*” to “Civil War as *opportunity to advance the American nation as the land of freedom and equality for all*”.

Lincoln’s words in the Gettysburg Address articulated clearly for all Americans im-

portant links among their past, present, the need for national renewal represented by the Civil War itself, and the future. As such, Lincoln firmly grounded his new organizational meaning metaphor—“Civil War as *opportunity to advance the American nation as the land of freedom and equality for all*”—in the past, the present, the need for renewal, and the future: 1) Lincoln’s evocation of the nation’s “past” [*“Four score and seven years ago our fathers brought forth on this continent, a new nation, conceived in Liberty, and dedicated to the proposition that all men are created equal.”*]; 2) Lincoln’s sober recognition of the “present struggles” as a test of the nation’s noble historical past [*“Now we are engaged in a great civil war; testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle field of that war. We have come to dedicate a portion of that field, as a final resting place for those who gave their lives that that nation might live. It is altogether fitting and proper that we should do this.”*]; 3) Lincoln’s call to the American people to “renew their national purpose” through rededicating themselves to the Founding Fathers’ ideal vision of a nation focused on equality and freedom for all [*“But, in a larger sense, we can not dedicate—we can not consecrate—we can not hallow—this ground. The brave men, living and dead, who struggled here have consecrated it, far above our poor power to add or detract. The world will little note, nor long remember what we say here, but it can never forget what they did here. It is for us the living, rather, to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us—that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion—that we here highly resolve that these dead shall not have died in vain—that this nation, under God, shall have a new birth of freedom”*]; and, finally 4) Lincoln’s commitment to the “future continuation” of the American Union [*“And that government of the people, by the people, for the people, shall not perish from the earth.”*] (Lincoln, 1863: Gettysburg Address).

Lincoln’s central breakthrough leadership insight—that it was his task to re-direct, re-commit, re-dedicate the American people to the noble, illusive ideal vision articulated by the Founding Fathers (i.e., the ideal vision of a nation focused on freedom and equality for all)—enabled him to generate his new organizational “meaning” (or “sense-making”) metaphor (“Civil War as *opportunity to advance the American nation as the land of freedom and equality for all*”) which suffused his Gettysburg Address. This new “sense-making” (“meaning”) metaphor became the basis for Lincoln’s compelling “new story” of a stronger, united, and renewed American nation. This new sense-making story helped the American people at this crucial turning point in their nation’s history find new meaning in their present struggles and discover a new way to move forward purposefully into the future. Specifically, in his Gettysburg Address Lincoln challenged the current, widely held public view of the “purpose” (or, in organizational change analytic terms: “sense-making metaphor”) of the intense fighting and bloodshed that was tearing the American nation apart (i.e., “Civil War as *struggle over slavery and economic interests*”) and put forth to the American people a new “purpose”

or organizational “sense-making metaphor” as a means to explain the larger “organizational meaning” of the war: “Civil War as *opportunity to advance the American nation as the land of freedom and equality for all*”. This change in sense-making metaphoric thinking—i.e., from “Civil War as *struggle over slavery and economic interests*” to “Civil War as *opportunity to advance the American nation as the land of freedom and equality for all*”—encapsulates well Lincoln’s breakthrough leadership thinking logic. Most importantly, this new organizational sense-making thinking provided the American people, both Americans living during that historic time and future Americans for generations to come, with the moral sense-making logic to internalize and understand more clearly the redemptive possibilities of that terrible national struggle.

Following from the above analysis, Abraham Lincoln’s *breakthrough leadership thinking* “logic” can be summarized succinctly in the following way. First: Lincoln passionately espoused a distinctive set of **core values and beliefs**. Specifically, Lincoln held an unswerving confidence in the promise of the American Union as the land of freedom and equality for all as originally articulated by the Founding Fathers in the United States Constitution. Additionally, Lincoln strongly believed that challenges were not insurmountable obstacles; challenges were opportunities for positive change and organizational growth. Second: Using his own core values and beliefs as a foundational frame to undergird his change agent thinking, Lincoln was then able to arrive at his **breakthrough leadership insight** regarding how to respond pragmatically and effectively to the country’s present organizational dilemma: Lincoln came to the realization that the American people—both Americans living at the time as well as generations of Americans in the future—needed a revitalization of their “organizational values *as a nation*” (as originally stated in the United States Constitution) to reinvigorate the national culture. Third: Leveraging this breakthrough leadership insight, Lincoln was able to craft a **new organizational sense-making metaphor**—i.e.: *Civil War as opportunity to advance the American nation as the land of freedom and equality for all*—which he articulated with great clarity and persuasiveness in his Gettysburg Address.

This change agent “logic” can be understood as the intuitive breakthrough leadership *analytic thinking process* that informed and guided Abraham Lincoln’s cumulative change agent thinking and leadership response to the national *organizational change leadership* dilemma situation he was immersed in and confronted head-on as the sixteenth President of the United States.

Jaime Escalante

In reviewing biographies and historical accounts of Jaime Escalante one of the most striking things that emerges about this extraordinary educator is that Escalante—throughout his teaching career—possessed and actively cultivated a natural *relational teaching style*. Escalante was always “tuned in” to the teaching and learning needs of his students. To borrow and apply two anthropological terms (terms originating in linguistic studies which were then subsequently adopted for use by cultural anthropologists)—*emic* and *etic* perspectivist insight (Headland, 1990; Headland et al., 1990)—to the act of teaching: Escalante consistently demonstrated both *emic* and *etic pedagogical insight*

in his professional teaching practice. Escalante intuitively possessed a realistic understanding of how his students thought in the present about their world and the possibilities it offered them—his students’ present “learning world view”; but Escalante also had a strong sense of what his students *could be capable of achieving* with the right mentoring and support—his students’ “learning achievement potential”. Thus, Escalante knew how to relate to his students’ own present real-world thinking—he could understand and relate to how his students “thought” about math and the world around them (*emic* pedagogical insight), but he also understood “what these students were capable of evolving into” with the appropriate mentoring guidance (*etic* pedagogical insight). Importantly, Escalante continuously utilized this special kind of “emic and etic pedagogical insight” to inform and guide his daily professional teaching practice. Escalante started a new “advanced math” program at Garfield High School with a small group of students whom he individually recruited. He told these students that basic math was too easy and that they could do higher math if they just worked harder. Most intriguingly, Escalante used his own *personal values and beliefs*—in particular, his own passionate belief, backed up by his early life experiences as a young student in Bolivia, that all an individual really needed to succeed in life was an indomitable spirit and a persistent, hard-nosed grit and determination to enable one to tackle and conquer any learning obstacle—as a personal values “referential model” to engender this same spirit of determination and desire for success in his students.

In organizational terms, Escalante’s intuitive change agent leader instincts and his passionate commitment to his own educational values and beliefs enabled him to put forward and work to integrate into Garfield High School’s teaching, leading, and learning culture a new “organizational meaning metaphor” regarding the larger “purpose” of school accreditation and how accreditation pressures could serve as a catalyst to jumpstart and energize student learning improvement. Importantly, Escalante’s new organizational meaning metaphor provided a new “sense-making frame” that had the power to resonate with learning stakeholders throughout the Garfield High School community. In essence, Escalante—acting as a determined social change agent through his own unrelenting “values modeling” and “values integration” efforts—was able to change the organizational meaning metaphor from “school accreditation (leadership) as *hopeless prospect*” to “school accreditation (leadership) as *opportunity to challenge and motivate the best and brightest students to explore the possibilities of their own learning potential* (students who, in turn, could then become learning achievement models for others)”.

Following from the above analysis, Jaime Escalante’s *breakthrough leadership thinking* “logic” can be summarized succinctly in the following way. First: Escalante passionately held and espoused a distinctive set of **core values and beliefs**. Specifically, as a professional educator, Escalante possessed a rock-solid confidence in the ability of each and every individual to succeed as a learner. Moreover, Escalante strongly believed that challenges were not insurmountable obstacles; challenges were opportunities for positive change and learning improvement. Second: Using his own core values and beliefs

as catalysts to energize his change agent thinking, Escalante was then able to arrive at his **breakthrough leadership insight** regarding how to respond proactively to Garfield High School's organizational (accreditation) dilemma: Escalante realized that Garfield High School needed a transfusion of new "teaching, leading, and learning values" to reinvigorate the school's communal learning culture. Third: Leveraging this breakthrough leadership insight, Escalante was able to craft a **new organizational sense-making metaphor** for Garfield High School learning stakeholders: *school leadership as opportunity to challenge and motivate the best and brightest students to explore the possibilities of their own learning potential (students who, in turn, will then become learning achievement models for others)*. Escalante articulated and modeled this new meaning metaphor very forcefully through his own instructional change leadership actions.

This change agent "logic" illuminates the breakthrough leadership *analytic thinking process* that characterized Jaime Escalante's intuitive change agent thinking and energetic leadership response to the school community *organizational change leadership* dilemma situation he was immersed in as a dedicated high school math teacher at Garfield High School in East Los Angeles, California.

Comparative Analysis: Lincoln and Escalante as "Social Justice" Change Agent Leaders

The Abraham Lincoln and Jaime Escalante change agent leader case situations bear some marked resemblance in that, although these two cases highlight change leaders working within two different leadership domains (i.e., national politics and education), both involved case situations in which the individual change agent leaders perceived that there was a compelling need to respond forcefully to urgent social justice and systemic inequality issues existing within their respective socio-organizational contexts.

Intriguingly, Abraham Lincoln and Jaime Escalante shared some important *core values and beliefs* that shaped and guided their decisions and actions as change agent leaders. Both leaders possessed a strong sense of and commitment to social justice. In addition, the core values of these two leaders reflected a strong sensitivity to the plight and circumstances of marginalized individuals. Moreover, both leaders firmly believed in the importance of a "level playing field" and the liberating power of the provision of equal opportunities for all members of society as a means to build social efficacy. Both Lincoln and Escalante experienced considerable negative social and political pressures in confronting head-on their respective socio-organizational dilemma challenges. Lincoln was called on by virtue of his national elected office to provide steady leadership during a particularly divisive time in United States history when the still young American nation was torn apart by competing beliefs and value systems regarding key economic, political, and moral issues. Similarly, Escalante found himself immersed in an unstable organizational situation in which educators—teachers along with campus-level and school district administrators—were having to contend with high-stakes teaching and learning accountability and school accreditation pressures in the context of a school district teaching and learning environment that was generally unresponsive to

the learning support needs of the district's large (and expanding) population of economically and ethnically marginalized students. As a result, both leaders found themselves in positions of leadership in social organizations that were experiencing intense *disequilibrium*. However, rather than acquiescing to the powerful entropic forces fueling this organizational disequilibrium, both Lincoln and Escalante were able to find creative ways to harness their organization's disequilibrium itself as a powerful catalyst for positive social change. Leveraging what in retrospect were extraordinarily creative team-building strategies, Lincoln used the intense multi-perspectivist conflict that was boiling over throughout the country and in the United States Congress during the 1860s over contentious national issues of slavery, states' rights, and economic freedom as a unique situational opportunity to transform his own executive cabinet into a *collaborative teaming incubator* for nurturing reasoned debate and creative compromise. In using this incubator approach, Lincoln was particularly interested in creating an intensive and highly focused *immersive leading and learning environment* for his cabinet members (and, by extension, for members of the United States Congress in general)—many of whom held passionately opposing views on these national issues—to be able within their daily cabinet and congressional meetings to begin to learn how to listen intently and carefully to each others' multiple perspectives and through ongoing, open communicative debate forge new team understandings that could lead to creative compromise. Throughout this *immersive teaming* incubation process, Lincoln's change agent actions were steadfastly guided by his own moral leadership convictions (which he developed and refined over a lifetime of observation and thoughtful reflection on the conditions of the people around him)—convictions that throughout Lincoln's public service career sustained his unwavering commitment to promoting resolute decision-making action that sought to ensure social justice for all. In similar ways, Jaime Escalante's own early life experiences as a student and evolving educator in his native Bolivia became self-referential frames that inspired his passionate desire upon becoming a high school math teacher in the United States to work for social justice in the educational arena through seeking to provide equitable teaching and learning opportunities for marginalized students. Escalante, recalling his own personal experiences in having to learn how to confront and overcome adverse circumstances as a young math student in Bolivia, refused to accept the prevailing belief held by many teachers and administrators in California's East Los Angeles school district that Mexican-American students' home economic and social conditions simply prevented many of these students from being able to succeed academically. Acting within their separate organizational leadership contexts, the collective change agent leader actions of Lincoln and Escalante provide compelling evidence that both leaders possessed an unwavering belief in their respective organization's capacity for *resilience* and *renewal*. This belief manifested itself specifically through these leaders' strong convictions regarding the potential of stakeholders within their chosen organizational arena to be compassionate and supportive of their fellow organization members and to be willing to work collaboratively to contribute in positive, reaffirming ways to broadening social justice opportunities for all.

In her now classic examination of organizational leadership viewed through the lens of twentieth-century new science concepts that have emerged in fields such as biology and quantum physics, Margaret Wheatley (1999) writes persuasively regarding the capacity of people in human organizations—via the purposive motivational behaviors and decision-making actions of insightful, collaborative leaders in these organizations—to engage in ongoing, systemic organizational reinvention through activating potent, organization-wide *self-organizing* and *self-renewing* processes. Through tapping into their organization’s natural capacities for positive change and renewal, change agent leaders in social organizations can counteract the powerful entropic forces (both internal and external) fueling system-wide upheaval that can often sap organization members’ energies and collective sense of purpose through inspiring and encouraging members throughout the organization—and, thus, the entire organization itself—to reorganize into a new, more resilient organizational form. This new organizational form will be one that reflects enhanced system coherence and resiliency and a renewed positive purpose and direction. According to Wheatley, this capacity of organizations to engage in *autopoiesis* [a Greek composite term meaning self-renewal]—i.e., to self-organize and self-renew into a higher form in response to entropic, dissipative forces—represents a manifestation of the life-renewing energy potential inherent in human organizations, of the potential of people in these organizations to transform themselves in positive ways through tapping into their organization’s natural capacities for resilience and renewal to reinvent their collective sense of organizational meaning and purpose. As Wheatley states, “[an organization’s] stability comes from a deepening center, a clarity about who it is, what it needs, what is required to survive in its environment. Self-organizing systems are never passive, hapless victims, forced to react to their environments. As the system matures and develops self-knowledge, it becomes more adept at working with its environment. It uses available resources more effectively, sustaining and strengthening itself. It gradually develops a stability that then helps shelter it from many of the demands from the environment. This stability enables it to continue to develop in ways of its own choosing, not as a fearful reactant” (Wheatley, 1999: pp. 83-84). Change agent leaders working within these human organizations play critical roles in this organizational self-renewal process through providing an important clarity and focus emanating from their change leadership *visionary thinking* that can help members gain renewed understandings of their organization’s core meaning and purpose. Indeed, this ability of effective change agent leaders to develop and articulate a compelling new forward-looking leadership vision to guide their organization’s processes of reinvention and renewal may be the *sine qua non* of successful organizational change. Fritjof Capra, reflecting on the requirements of effective leadership in organizations, highlights the central importance of a leader’s visioning ability: “Holding a vision is crucial to the success of any organization, because all human beings need to feel that their actions are meaningful and geared toward specific goals. At all levels of the organization, people need to have a sense of where they are going... Whenever we need to express complex and subtle images, we make use of metaphors, and thus it is not

surprising that metaphors play a crucial role in formulating an organization's vision. Often, the vision remains unclear as long as we try to explain it, but suddenly comes into focus when we find the right metaphor. The ability to express a vision in metaphors, to articulate it in such a way that it is understood and embraced by all, is an essential quality of leadership" (Capra, 2002: p. 122).

Abraham Lincoln and Jaime Escalante both demonstrated a pronounced capacity for insightful visionary thinking along with the ability to clearly and forcefully articulate that vision thinking in their respective organizational leadership contexts. Throughout his political career Lincoln gave speeches and crafted written proclamations that articulated in clear terms his moral values and leadership vision for the American nation. From the Lincoln-Douglas debates (1858), through his time as president (1861-1865) (e.g., the First and Second Inaugural Addresses and the Emancipation Proclamation), to the Gettysburg Address (1863), Lincoln's words conveyed to Americans his vision—grounded firmly in principles of social justice and equality—of national unity and freedom for all. Most notably, Lincoln's Gettysburg Address provided the means for Americans, both at that time and into the future, to reinterpret the horrible scourge of the nation's civil war struggles as an opportunity for the country to experience a *new birth of freedom*. In a similar way, Jaime Escalante consistently articulated his vision of *educational attainment as equalizing opportunity* to the many students he came in contact with as a math teacher at Garfield High School in East Los Angeles. Escalante challenged his students to excel academically, instilling in his students through his motivational teaching practices his passionate belief that education provided the means to "level the playing field" in life (as Escalante frequently told his students: *math is the great equalizer*). As a social change agent, Escalante succeeded in dramatically transforming Garfield High School's teaching and learning culture through tirelessly promoting his social justice vision—a vision grounded firmly in the equalizing potential of educational opportunity, and by challenging his students to believe in themselves and their own ability to succeed.

Most strikingly, the Lincoln and Escalante cases collectively provide strong evidence suggesting that perhaps the most fundamentally important ongoing activity of an effective social change leader—a leader who must grapple with persistent socio-organizational dilemma challenges caused by systemic "opportunity inequality" affecting organization members—is *values modeling*. This values modeling involves the change leader in seeking proactively to enact through her/his own professional behavior, demeanor, decisions, and actions the specific "core values and beliefs" the change leader passionately espouses reflecting key ideas associated with the leader's ideal vision of inclusive and responsive human organizations. These key vision ideas can include but are not limited to: 1) the purposes and conduct of effective organizational leadership in a climate of intense socio-political change; 2) the practical design of high-quality, equitable social development and education programs to support organization members; 3) social and educational idealism; and 4) providing social and economic development and learning opportunities for real-world success to all organization members. Import-

tantly, these are ideas that the individual leader feels are critical to informing the leader's own ideal vision of the organization and also fundamentally important to ensuring the overall effectiveness of the organization *as an organization*. In this combined sense, "values modeling" can be seen to be a central feature of effective organizational change leadership, particularly in situations where the social organization as a whole is in turmoil because of the ongoing negative effects of systemic and entrenched "opportunity inequality". Following from this, two fundamental character traits of effective "change agent leadership" in these organizational situations can be derived. Effective change agent leaders of social organizations experiencing "opportunity inequality" dilemmas possess: 1) a commitment to *values modeling*, that is, to actively modeling to others their own personal, carefully thought-out core values and beliefs—values and beliefs that are also perceived to be important for enabling system-wide values redefinition and positive organizational transformation (no matter what the consequences); and 2) a dedication to *values integration*, that is, to working collaboratively to *integrate*—in an open manner—these values and beliefs directly into organizational improvement programs and initiatives. In broader terms, the most effective change agent leaders of social organizations may be those who, over the long term, work conscientiously to dedicate themselves to developing and espousing these two change agent leadership character traits (*values modeling* and *values integration*) as active components of their leadership practice.

3.2. Breakthrough Leadership Thinking for Social Innovation

The breakthrough leadership thinking processes of the remaining two change agent leaders—Jackson Pollock and Douglas Engelbart—are examined in this second analysis subsection. Following an individual analysis of each leader, a comparative analysis is then presented highlighting the unique change agent thinking and actions of these individuals that suggest that these two leaders can be best understood as *innovation pioneer* social change agents.

Jackson Pollock

Jackson Pollock, like other innovative artists who made earlier pioneering contributions in the realm of creative artistic expression—such as Wassily Kandinsky (1866-1944), Pablo Picasso (1881-1973), and Georges Braque (1882-1963) in the domain of painting; and Auguste Rodin (1840-1917) and Constantin Brancusi (1876-1957) in the domain of sculpture, to name just a few—felt a compelling need to contribute to the revitalization of his chosen domain through pursuing a career as an experimental artist and trailblazer. In his own unique way, Pollock succeeded through his life-long artistic experimentation with new painting ideas and methods—which he would often solicit critical feedback on through open discussions with like-minded artists and art critics within his inner circle of associates—in significantly expanding the technical palette and aesthetic approach to painting for both his own generation and future generations of visual artists. Pollock brought about this expansion in ways that deepened and refined the interpretive appeal of abstract expressionism as a creative art form.

As Pollock's signature abstract expressionist painting style evolved and matured during the late 1940s and early 1950s (culminating in his famous large-canvas "drip paintings" of the early 1950s), Pollock's penchant for utilizing a pronounced visceral-spatial and psychological *immersion* in his own canvases and the process of painting itself as the primary modus operandi of his painting technique enabled him to achieve a significant breakthrough in expanding the aesthetic boundaries of painting and freeing his own and future generations from their sense of historical dependence on the traditions of European art. The paintings of Pollock's mature "drip painting" period, in which he used a variety of brushes, sticks, and syringes to drip and spatter oil, enamel, and aluminum paint as well as glass fragments and other materials onto his canvases, are characterized by a dramatic breaking-away from many of the traditional stylistic painting techniques of past artists. For example, Pollock eschewed the strictures of using artistic "lines" (as they have been traditionally used by artists of the past) to delineate specific forms and figures or to define the edges of planes. Rather, Pollock transformed lines into free-flowing elements that became integral, autonomous components of his compositions. Additionally, Pollock's innovative painting style included abandoning the use of the traditional easel and painter's brushes in favor of using much larger canvases spread out on the floor, around which he could move more freely and interact directly with his paintings as they were taking shape. As a result of these innovative stylistic techniques, Pollock's large-canvas drip paintings really had no specific focal point—they were all-over compositions, drawing the viewer in an immersive way into the entirety of the picture. Just to take one of Pollock's most famous large-canvas drip paintings as an example, in his *Autumn Rhythm: Number 30* (an oil on canvas painting which Pollock created in 1950 and which now is on display in the Metropolitan Museum of Art in New York City) Pollock employed the cumulative innovative painting techniques which he had been evolving and refining throughout the 1940s to evoke with striking clarity and expressive beauty the recurring fractal patterns that are so often found in nature. Interestingly, Pollock himself was acutely aware of his technical innovations and of their central importance to his artistic productivity as reflected in a succinct comment he made to an interviewer in 1950 regarding his innovative painting style: "My opinion is that new needs need new techniques" (Karmel, 1999: p. 20). Importantly, these aggregate stylistic innovations in painting technique used in the service of a radically redefined intuitive and psychologically expressive approach to the creative artistic process itself enabled Pollock to instigate a breakthrough expansion in society's understanding and appreciation of what constituted a creative work of art in the realm of visual painting.

Following from the above analysis, Jackson Pollock's *breakthrough leadership thinking* "logic" can be summarized as follows: First: Pollock possessed a unique set of **core values and beliefs** about the purpose of painting and the role of the artist in modern society—core values and beliefs that evolved and coalesced in Pollock's mind as a reflection of his work as an artist within his historical time and place, the American post-depression period during the 1930s through 1950s. Pollock believed that art

should *illuminate nature*. At a fundamental level Pollock believed most emphatically in the expressive, revelatory power of art to convey the lyrical beauty and structural orderliness embedded in the complexities of nature. Indeed, the collective corpus of paintings Pollock produced during his lifetime reflects the high value Pollock placed in the possibilities of painting for visually capturing and representing the *ineffable simplicity, beauty, and expressiveness* inherent in nature and nature's structural forms. Pollock was able to integrate this core value directly into his creative oeuvre through leveraging an expert combination of playful experimentation, artistic bricolage, and a highly intuitive and sensitive painting technique to visually convey the underlying structural order and simplicity inherent in the complex fractal patterning of nature. Pollock's paintings themselves became an enduring testament to his belief in the power of painting to be able to express the underlying orderliness and structural beauty of the world of nature in all of its fractal complexity—that is, to convey nature's underlying *order within complexity*—as captured and interpreted via the psychological, existential musings of the artist. Second: Using his own core values and beliefs as catalysts to energize his change agent thinking, Pollock was then able to arrive at his **breakthrough leadership insight** as an artistic pioneer regarding how to expand aesthetic boundaries in the world of painting and open up new creative possibilities for other artists: Pollock realized that the world of painting needed the artistic leadership of a pioneering spirit to help artists break away from the perceived historical shackles of conventional modes of representing nature through painting to enable a new *aesthetic synthesis*. This new synthesis was one that combined an expanded artistic palette (that included both the artistic technique and existential psychic feelings of the artist) with a highly intuitive and evolved immersive resonance with nature and the act of painting itself to represent with great forcefulness and clarity both the structural complexity and the lyrical simplicity of nature. Third: Leveraging this breakthrough leadership insight, Pollock was able to craft a **new organizational sense-making metaphor**—i.e., *art as an expressive means to illuminate the lyrical beauty and structural orderliness of nature*—for artists and art lovers of his own generation and future generations to inform their understanding of the purpose of painting and the role of the visual artist in modern society. Pollock articulated this new meaning metaphor with passionate conviction through his own artistic persona and painting output.

This change agent “logic” illuminates the breakthrough leadership *analytic thinking process* that characterized Jackson Pollock's intuitive change agent thinking and “innovation pioneer” leadership response to the *organizational change leadership* artistic dilemma challenges he found himself confronting as a visual artist living and working during the first half of the twentieth century.

Douglas Engelbart

Douglas Engelbart combined a natural predilection for mechanical problem solving with a life-long interest in technical console/workstation display interface design to develop and demonstrate in practice—working as the lead design engineer of his development team during the 1960s—a pioneering vision of practical personal and social-

interactive computing. Engelbart's innovative design thinking in developing and demonstrating during the 1960s and early 1970s many core working components of what was to become the first generation human-computer interface along with his broader, long-term vision regarding the inherent possibilities of the computer as a mind amplification tool solidified his place as a visionary pioneer in the world of computer design and information technology. Engelbart believed passionately in the transformative potential of digital computers as mind-amplifying tools. In particular, Engelbart was intensely interested in finding practical ways to harness the collective problem-solving power of the newly emerging digital computers to enable people to engage synergistically in computer-augmented *collaborative problem solving* as a means to tackle and develop long-term solutions for the world's increasingly complex global problems (e.g., population growth, economic inequality, environmental pollution).

As a practical-minded, applied engineering design thinker and developer, Engelbart was particularly interested in seeing his computer interface design ideas realized into a fully operational working system. His cumulative design thinking, which he began to evolve during the time he was writing his two visionary manifestos ["Special Considerations of the Individual as a User, Generator, and Retriever of Information" (Engelbart, 1960/1961) and "Augmenting Human Intellect: A Conceptual Framework" (Engelbart, 1962)], and which he continued to develop and refine as head of a federally funded Augmentation Research Center (ARC) research team at the Stanford Research Institute (SRI) in Menlo Park, California, resulted in the development in the mid-1960s of a fully functioning *networked, interactive computing system* which he demonstrated to an assembled gathering of computer scientists and engineers at the December 1968 Fall Joint Computer Conference. At this now legendary "new technologies presentation" Engelbart showcased to conference attendees for the first time his visionary new interactive computing techniques and demonstrated how these techniques could be integrated effectively into a networked computing system that could enable scientists to engage productively in rapid and reliable information sharing and communication. Engelbart's 1968 new technologies presentation was essentially the "world debut of personal and interactive computing: for the first time the public saw a computer mouse, which controlled a networked computer system to demonstrate hypertext linking, real-time text editing, multiple windows with flexible view control, cathode display tubes, and shared-screen teleconferencing. It changed what was possible. The 1968 demo presaged many of the technologies we use today, from personal computing to social networking. The demo embodied Engelbart's vision of solving humanity's most important problems by using computers to improve communication and collaboration." (SRI International, 2008/2016 web archive: "Engelbart and the dawn of interactive computing: SRI's revolutionary 1968 demo—a 40th anniversary celebration."). The multiple new, mouse-controlled interactive computing techniques that Engelbart showcased to the world for the first time at this 1968 interactive computing demo (i.e., collaborative real-time text editing, shared screen video conferencing, teleconferencing, word processing, hypertext in both text and graphics, hyperlinking, hypermedia, object addressing/dynamic file

linking, bootstrapping, and multiple windows screen environments with view control flexibility) were, in retrospect, all highly creative engineering design breakthroughs that have since become standard functional features of the personal and interactive digital computing environments used by people today throughout the world to organize and share information and to solve problems. Engelbart's sustained visionary design thinking and engineering development work over the course of his highly productive career resulted in seminal human-computer interface breakthroughs in the areas of interactive digital computing and information technology—breakthroughs that opened up new possibilities for how people could engage productively in social interaction and collaborative problem solving through leveraging the mind-amplifying power of digital computers.

Following from the above analysis, Douglas Engelbart's *breakthrough leadership thinking* “logic” can be summarized succinctly as follows: First: Engelbart possessed a fundamental set of **core values and beliefs** regarding the mind amplification potential of digital computers—particularly when combined with creative human-computer interface design development breakthroughs generated through the systematic and rigorous application of practical engineering design thinking—that could enable people to engage in *collaborative problem solving* using the computational and information-sorting processing power of digital computers. This set of core values and beliefs fueled Engelbart's desire to operationalize his vision of interactive computing through developing a set of interactive computing techniques that could drive a fully functioning networked computing system. Second: Using his own core values and beliefs to fuel his evolving change agent design thinking, Engelbart developed his **breakthrough leadership insights** as an engineering design pioneer on the “collaborative information sharing” and “problem-solving potential” of digital computers. These insights enabled Engelbart to envision, create, and successfully demonstrate an integrated and functionally inter-operative set of new human-computer interface designs that would open up new worlds of interactive computing possibilities for his own and future generations. Third: Leveraging these breakthrough leadership insights, Engelbart was able to disseminate to his computer scientist and engineer colleagues as well as to the broader global community a **new organizational sense-making metaphor**: *effective human communication and problem solving in the digital era as social-interactive networked computing*. This new meaning metaphor would set the stage for empowering people both in his own and future generations to be able to leverage effectively the mind-amplifying power of digital computers to communicate and share information and to solve important problems in socially transformative ways.

This change agent “logic” undergirds the breakthrough leadership *analytic thinking process* that fueled Douglas Engelbart's change agent engineering design thinking and “innovation pioneer” leadership response to the *organizational change leadership* interactive computing design challenges he found himself confronting as a computer scientist and engineer working during the early decades of the new digital computing era.

Comparative Analysis: Pollock and Engelbart as “Innovation Pioneer” Change Agent Leaders

While the domains of painting/visual arts and computer engineering are certainly manifestly different in their fundamental purposes—the former is concerned with human expressiveness and aesthetic beauty and the latter deals with digital system design and information codification, archival/retrieval, and communication—intriguingly, these two domains also overlap in the important sense that both domains require strong infusions of creative energy from their domain leaders to spur progress in the individual domain area. Specifically, the kind of energy required of change agent leaders in these domain areas typically must assume the form of highly creative *envisioning inspiration* complemented by a strong *vision-realization commitment*.

In examining the cumulative career accomplishments of Jackson Pollock and Douglas Engelbart it becomes clear that both of these social change agent leaders, working within their individual domains, displayed above all else a pronounced *innovation pioneer* leadership spirit. Most notably, this innovation pioneer spirit manifested itself through these change leaders’ own life-long proclivity for *deep design thinking*. This kind of systematic and intensive design thinking—in which the change leader is focused for extended periods of time on considerations of “structural form” (materials, tools, and methods) and how form is connected to broader considerations of “social function” (purposefulness, utility, and aesthetic beauty)—enabled Pollock and Engelbart to realize innovation breakthroughs on an order of magnitude that would revolutionize their respective domain areas. In particular, the design thinking practices these two change agent leaders engaged in often involved the use of highly creative experimentation techniques, techniques that are typically characteristic of an *intuitive bricoleur*: that is, freely playing with concepts and objects in order to learn more about them and how these concepts and objects could be usefully applied in the service of operationalizing creative ideas (Lévi-Strauss, 1966). Working within the domain of painting/visual arts, Jackson Pollock pioneered the development and use of his signature “drip method” of painting. Pollock first experimented with and subsequently evolved a refined method of pouring and spattering paint onto his canvases to create large, “all-over” mural compositions that lacked any defining central point of interest but which nevertheless conveyed to the viewer a well-articulated, ordered representation of complexity. Through employing this highly unorthodox method of painting Pollock was able to achieve stunning breakthroughs in abstract expressionist visual art. The series of large-scale mural drip paintings Pollock produced during an intensely creative four-year period (from 1947 through 1950) revolutionized artistic thinking at the time and have since become iconic exemplars of twentieth-century abstract expressionist art. Indeed, Pollock’s innovative paintings of this period were defining contributions to a new abstract expressionist style of painting that in the decade following the end of World War II served to shift the very center of the art world from Europe to the United States (Gallenson, 2009: p. 263). Pollock’s “innovation pioneering” leadership in conceiving new guiding purposes as well as new practical methods that would become driving forces in the world of twentieth-century abstract expressionist painting also influenced other

creative visual artists of the time, such as Willem de Kooning and Mark Rothko, who followed Pollock's lead and also began to explore new techniques of expression in their own artistic work. Similarly, Douglas Engelbart combined his extensive engineering background with a natural predilection for human-machine interface design thinking to become the visionary leader of a federally funded computer engineering team at the Stanford Research Institute in the 1960s focused on developing the first generation of functioning human-computer interface tools. Engelbart's groundbreaking interface designs would become the enabling tools that would empower scientists and engineers (as well as people working in multiple other societal domains) to be able to leverage effectively the *collaborative teaming* and *interactive problem-solving* potential inherent in digital computing—a potential that Engelbart so clearly envisioned. Engelbart's breakthrough interface designs and the collective impact of his seminal design thinking on the early evolution of digital computing as a socially transformative information sharing and problem-solving tool will forever remain as enduring testaments to his “innovation pioneering” leadership spirit.

Pollock and Engelbart also demonstrated their signature “innovation pioneer” leadership spirit in the ways they worked tirelessly to realize transformative change in their chosen domain area through seeking to insert their innovative thinking directly into their domain's broad socio-organizational culture. Pollock and Engelbart both did this through disseminating their concepts, methods, and inventive output using available professional and societal showcase venues. As his notoriety increased during the 1940s, Jackson Pollock displayed his new works at contemporary art exhibitions, gave press interviews, and eventually gained national prominence through a four-page feature article (entitled “Jackson Pollock—is he the greatest living painter in the United States?”) that appeared in August 1949 in *Life* magazine. Similarly, Douglas Engelbart, operating within the established professional dissemination structures of his domain, worked to develop and refine his interactive computing engineering designs and then showcased his design breakthroughs in a now legendary “new technologies demonstration” to an assembled gathering of over one thousand leading computer scientists and engineers at the December 1968 Fall Joint Computer Conference in San Francisco. In both cases, these change agent leaders leveraged the social communication and professional showcase venues available at the time in their respective domain areas to disseminate their pioneering innovations widely to large audiences.

In his sociological examination of characteristics associated with the effective diffusion of innovations, [Everett Rogers \(2003\)](#) points out that an innovation's simultaneous ability to have perceived “compatibility” with current sociocultural values and beliefs while also being able to “extend” those values and beliefs—in particular, the innovation's ability to resonate effectively with existing values while also *giving meaning to new ideas and social needs*—is an important characteristic marker of a successful socially transformative innovation. In this conception of the broad *sociocultural compatibility* of an innovation, compatibility is understood as “the degree to which an innovation is perceived as consistent with the existing values, past experiences, and needs of

potential adopters. An idea that is more compatible is less uncertain to the potential adopter and fits more closely with the individual's situation. Such compatibility helps the individual *give meaning to the new idea* [emphasis added] so that it is regarded as more familiar. An innovation can be compatible or incompatible with: 1) sociocultural values and beliefs; 2) previously introduced ideas; and/or 3) client needs for the innovation" (Rogers, 2003: p. 240). As change agent leaders, Pollock and Engelbart both worked to ensure that their innovations resonated with the past and current experiences of their audiences, while also providing their societal audiences with new "sense-making metaphors" to fully appreciate and internalize the social value of their breakthrough ideas and innovative output. In developing his revolutionary style of abstract expressionist painting, Jackson Pollock's intention was never to abandon nature. On the contrary, Pollock sought passionately throughout his career to find the creative means as an artist to extend his psychological identification with nature through evolving a new *aesthetic synthesis* in his painting that enabled him to capture more accurately the "aesthetic connection" or "synergy" between the artist's own psychic reflections on nature and the complexity and beauty of nature itself. Pollock realized the need for recognizing the technical advancements and aesthetic understandings achieved by painters of the past century while also simultaneously exploring the means to break away from this artistic past through discovering new expressive means to reflect new advances being made (by him and other artists) in aesthetic thinking and feeling. In Pollock's own words: "I accept the fact that the important painting of the last hundred years was done in France... Thus the fact that good European moderns are now here [in the United States] is very important, for they bring with them an understanding of the problems of modern painting." (Jackson Pollock, 1944: quoted in Los Angeles County Museum of Art, *New York School*, p. 25—interview excerpt referenced in Galenson, 2001: p. 33). While acknowledging the importance of these indelible connections to artists of the past, Pollock was also unwavering in his championing of the need for bold artistic innovation: "My opinion is that new needs need new techniques" (Karmel, 1999: p. 20). In similar ways, Douglas Engelbart sustained a vision throughout his professional life of the leveraging potential of computers as a means to augment human information sharing and collaborative problem solving. In the conclusion to the second of his two manifestos written in the early 1960s on the potential of computers as collaboration tools (Engelbart, 1962: "Augmenting Human Intellect: A Conceptual Framework"), Engelbart wrote: "...any possibility for improving the effective utilization of the intellectual power of society's problem solvers warrants the most serious consideration. This is because man's problem-solving capability represents possibly the most important resource possessed by a society. The other contenders for first importance are all critically dependent for their development and use upon this resource. Any possibility for evolving an art or science that can couple directly and significantly to the continued development of that resource should warrant doubly serious consideration" (Engelbart, 1962: p. 131). Engelbart's pioneering contributions at the beginning of the digital age in developing human-computer interactive design tools to enable people to harness the collaborative problem-solving power of computers serve as enduring tes-

taments to his innovative vision—a vision grounded firmly in Engelbart’s core belief in mankind’s unique ability to continually build upon his own accumulated problem-solving skills as a main driver of his future destiny.

In summary, in reviewing the historical record of these two change agent leaders’ innovative visions of the future and these leaders’ career-long dedication to promoting their unique change agent visions within their chosen domain, Jackson Pollock and Douglas Engelbart can both rightfully be considered *innovation pioneers*.

4. Practical Implications

4.1. Breakthrough Leadership Thinking and Change Agent Leadership Practice

In this multiple case study I have examined the breakthrough leadership thinking of four social change agent leaders who have made singular contributions as leaders of transformative change in four identified leadership domains. I purposely selected exemplary change leaders from four *different* sociocultural domains as a means to provide an additional degree of analytic breadth and depth to my comparative investigation of the breakthrough leadership thinking processes of recognized, successful social change leaders. Through the case analyses completed and reported in this article I have sought to illuminate the intuitive foundational logic undergirding the breakthrough leadership thinking processes of each of the four exemplary change agent leaders profiled and how this breakthrough leadership thinking logic contributed directly to informing and guiding each leader’s *innovative leadership practice*. I have done this through following a three-step analysis process. First, I examined these individual leaders’ *core values and beliefs*, as these values and beliefs became manifest through each leader’s life and career development, creative work, writings, and social interactions. Second, I explored the ways in which each leader employed these core values and beliefs as a foundational base from which to generate *breakthrough leadership insights in context*. Third, I identified how each leader was able to leverage the breakthrough leadership insights generated to derive a new *organizational sense-making metaphor* (i.e., a new “meaning” metaphor to lead organization members through the processes of change and renewal) that each leader embodied and which infused each change leader’s professional communications, actions, and innovative output. In each of the exemplary leader cases examined the generation by the change leader of a powerful new organizational sense-making metaphor to guide organization members in internalizing change and embracing the change agent’s innovative ideas and methods was instrumental in providing an effective means for the leader to disseminate widely his innovative vision and insert this new vision into the organizational domain’s broad sociocultural discourse and practices.

4.2. Deriving Practical Insights and Strategies for Leading Transformative Change in Multiple Socio-Organizational Contexts

The individual and comparative leadership case analyses completed in the present

study revealed a number of intriguing *change leadership insights and strategies* employed by the four exemplary change agent leaders examined that may be useful to change leaders working today in a variety of professional domains and socio-organizational contexts. These change leadership insights and strategies are presented below in summary form. Culled from the collective examination of the breakthrough leadership thinking processes and complementary decision-making actions of the four social change agent leaders investigated in this study, these practical insights and creative strategies—reflecting the combined *applied leadership thinking in context* of these exemplary social change agents—may help inform the ongoing efforts of change leaders today operating in multiple domains who are interested in facilitating positive change and renewal in their own organizational settings.

Seven key *change leadership insights and strategies* derived from collective analyses of the breakthrough leadership thinking and decision-making actions of the four exemplary leaders profiled in this study:

Look for opportunities to create “compromise incubators” in your social organization: Nurture “change-inducing” leading and learning environmental structures (i.e., *compromise incubators*) in your organization that can provide opportunities for stakeholders who hold passionate, conflicting beliefs and perspectives on critical organizational challenge issues to interact in close proximity to explore positive, integrated (i.e., compromise-driven) solutions to these challenges. Like Lincoln, work to enhance your change agent leader effectiveness through identifying creative opportunities in your social organization for *leveraging intense conflict as a powerful catalyst for generating compromise solutions* that can enable positive social change.

Identify the most talented, enthusiastic people at the top of your social organization who are open to positive change to become “models of change for others”: Powerful ideas can be strong catalysts to spark the initial flames of organizational change, but those initial flames must be fanned and nurtured in order to remain viable such that the initial change efforts continue to grow. Change agent leaders seeking to incrementally grow and expand positive change throughout their social organization can follow the lead of social change leaders such as Abraham Lincoln and Jaime Escalante and tap the sustained, positive change insights and efforts of a key cadre of elite, open-minded organization members who are (or who can potentially become) receptive to embracing and enacting the change ideas. Through working to mentor and support these elite organization members as they strive to implement the first iterations of organizational change a visionary change leader can groom these “first generation” change implementers to become *models of change for others* throughout their social organization.

Understand the central importance of “values modeling” and “values integration” in your change agent leadership practice: The most effective change leaders are those who are able to translate their change ideas into demonstrable action through “walking their talk”. Mindful of the creative social change agent strategies of Escalante and Lincoln, change leaders who are committed to actively modeling to others their

own personal core values and beliefs regarding the possibilities for positive “social transformation” and “social opportunity expansion” in their organization (i.e., *values modeling*) and who work tirelessly with others to *integrate* these core values and beliefs openly and directly into their social organization’s culture through targeted improvement programs and initiatives (i.e., *values integration*) will be the leaders most likely to succeed in their efforts to enact transformative social and organizational change.

Internalize and be guided by the insight that “changing the metaphor changes the meaning”: Highly disruptive change forces (initiated internally or externally) can cause a social organization to move quickly from a condition of relative stasis to one of intense disequilibrium. Insightful change leaders understand the difficulties organization members can often encounter in being able to come to grips with and “make sense” of the system-wide chaos and general disorientation that can be caused by powerful change forces. Reflecting on the breakthrough leadership thinking and visionary change implementation practices of the four exemplary social change leaders examined in this study, change leaders today operating in a wide variety of organizational settings can work creatively to mitigate the effects of disruptive change and stabilize their organizations through developing and inserting a new *organizational sense-making metaphor* into their organization’s sociocultural discourse. An effective new sense-making metaphor—reflecting a set of new “integrative ideas” and/or “innovative practices” that can stabilize an organization and guide its continued positive development—can help members “make sense” of their organization’s disruptive change experiences and, when properly integrated over time into the organization’s broad sociocultural fabric, can indeed become a source of *new organizational meaning* for members.

Understand that successful organizational change is grounded firmly in a recognition and appreciation of the value-added contributions of past members: The richness and diversity of any social organization or professional domain area is a function of the collective contributions of multiple generations of organization members—and, particularly, of those singular members whose breakthrough thinking abilities have the power to generate new innovative ideas and practices that can inspire new levels of creative thinking and productivity throughout the organization. These innovative thinkers, working and interacting with other organization members in their own historical time and place, generate and insert their creative ideas and practices into the organization’s continuously evolving sociocultural discourse. Effective change leaders recognize the unique “value-added contributions” of their organization’s past innovators and affirm these past members’ advances as an important *cumulative creative legacy* that current leaders can continue to build upon to further advance their organization’s overall sociocultural tapestry of innovation.

Be open to creative insights from multidisciplinary sources: Effective change leaders are able to expand and enrich their own innovative thinking through their ability to be open to the diverse intersection of ideas that is often generated through engaging in “interdisciplinary” or “multidisciplinary” thinking. Change leaders can broaden and deepen their own innovative thinking capabilities through the uniquely crea-

tive insights they can potentially glean through the *cross-pollination effect* that can be triggered through thinking about and applying creative ideas and practices from outside their own organizational domain or field of endeavor.

Cultivate “professional feedback networks” to refine innovative ideas and practices. In reviewing the communication and networking strategies utilized by the four change agent leaders examined in this study, change agent leaders seeking to optimize the clarity, power, and application potential of their innovative ideas and practices can work to emulate these exemplary change leaders’ networking practices through nurturing robust *professional feedback networks* in their own social organizations and domain environments to leverage the “idea refining” and “critical feedback” capacities of close advisers, development teams, and professional association members. Moreover, change leaders can tap into the “networking expansion potential” of online social networks using today’s internet-based communication sharing and dissemination tools that are readily available via the World Wide Web and social media, such as blogs, micro-blogs, wikis, online chat rooms, Facebook, Twitter, LinkedIn, and the like. Change agent leaders can use these internet-enabled collaborative resources to further refine their change leader thinking and disseminate their innovative ideas to a large (global) social community.

Change agent leaders today may be able to enhance their overall effectiveness in working with colleagues and stakeholders to bring about positive transformative change in their own social organizations through internalizing the above change leader insights and leveraging some of the change agent strategies noted. Importantly, change agent leaders working in a variety of socio-organizational settings may be able to apply some of these insights and strategies *in context* to build social organization member buy-in to innovative ideas and to nurture members’ collective capacity for positive social change and meaningful organizational renewal.

5. Conclusion

This article reported results of a multiple case study examining the *breakthrough leadership thinking processes* of visionary social change agent leaders. The study focused directly on investigating the leadership thinking of four selected exemplary change leaders who are widely recognized for their innovative leadership vision and career accomplishments in facilitating positive transformative change and organizational renewal in their respective chosen leadership domains. The analyses completed centered specifically on exploring the ways in which each individual leader: 1) developed and espoused a set of core values and beliefs that undergirded the change agent’s career-long leadership thinking; 2) utilized these core values and beliefs as powerful catalysts to formulate new breakthrough leadership insights to guide innovation and social progress; and 3) leveraged the breakthrough leadership insights acquired to generate a new organizational sense-making metaphor to support positive transformative change in the leader’s domain area and socio-organizational setting.

The conceptual understandings emerging from this study regarding the *social justice*

and *innovation pioneer* leadership characteristics of the four change leaders examined serve as an initial analytic frame through which we might begin to better comprehend the nature and effects of the breakthrough leadership thinking processes of visionary social change agents. In addition, the seven key *change leadership insights and strategies* derived from the collective analyses of the four change leaders' breakthrough leadership thinking processes and decision-making actions—highlighted in the implications section of this study report—may be of practical use to change leaders today working in a variety of professional domains who are interested in facilitating meaningful and enduring *positive transformative change* in their own organizational settings.

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