Servant Leadership: A Chaotic Leadership Theory

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Greenleaf (1977) posits the true test of servant leadership as the reproduction of the leader's service inclination in others. While many discussions about servant leadership emphasize the reproduction outcome, those scholars that propose conceptual models of servant leadership do not clearly show reproduced service. Some models focus on the general way leaders interact with the organization. Other models propose the causal relationship between leader attributes that produce the leader's acts of service. Chaos theory provides a fractal construct that allows modification of the Patterson (2003)-Winston (2003) servant leadership model to better show the reproduction of the service inclination at both dyadic and organizational scales.

Greenleaf (1977) proposed the true test of servant leadership is leaders reproducing their inclination to serve in others. However, current servant leadership models do not clearly demonstrate a reproduction variable. By providing a modification to the Patterson (2003)-Winston (2003) servant leadership model to demonstrate more clearly the reproduction of the service inclination in both the dyadic and organizational dimensions, this study will give scholars and practitioners a better understanding of the practice of servant leadership.

The first part of the study reviews servant leadership literature and categorizes it as (a) non-model discussions, (b) leader-organization models, and (c) leader-follower models. Non model writings discuss the practice of servant leadership without proposing a conceptual model. Leader-organization models illustrate the general way leaders interact with the organization. Leader-follower models explain causal relationships between leader attributes as the leader interacts with individual followers. The second section reviews chaos theory literature (a) to demonstrate the similarity between servant leadership and chaos theory, (b) to discover a relevant fractal variable, (c) to propose a modified Patterson (2003)-Winston (2003) servant leadership model, and (d) to suggest areas for further research. The paper concludes with a proposed research design to test for the presence of the fractal variable.

Servant Leadership Models

Similar to Jesus telling his disciples, "Whoever desires to become great among you must be your servant, and whoever of you desires to be first must be slave of all" (Mark 10:43-44, New King James Version), Greenleaf (1977) indicates great leaders are servants first. He states, servant leadership "begins with the natural feeling that one wants to serve" (p. 13). The leader lives out the service inclination through his attitudes and behaviors. Spears (1998) distills several servant-leader attributes from Greenleaf's writings including (a) listening, (b) empathy, (c) healing, (d) awareness, (e) persuasion, (f) conceptualization, (g) foresight, (h) stewardship, (i) commitment to the growth of others, and (j) ability to build community. Building from these
attributes, Greenleaf addresses the desired outcome of servant leadership when he asks, "Do those served grow as persons? Do they while being served become healthier, wiser, freer, more autonomous, more likely themselves to become servants" (p. 13). This is the true test of servant leadership (Laub, 1999; Errol and Winston, 2005). Moreover, reproduction should occur on an organizational scale. Greenleaf states, "The first order of business is to build a group of people who, under the influence of the institution, grow taller and become healthier, stronger, more autonomous" (p. 40).

A review of the literature shows many scholars have addressed servant leadership since Greenleaf's (1977) work. Three trajectories are evident including (a) non-model discussions, (b) leader-organization models, and (c) leader-follower models. These categories serve as the framework for the first section of this paper.

Non-Model Discussions

Most of the servant leadership literature does not propose a conceptual model. Similar to Greenleaf's (1977) constructs, these authors tend to address servant leadership's (a) value base, (b) leader attributes, or (c) outcomes. However, these writers do not propose clear causal relationships between variables.

Value Base. According to Rinehart (1998), "Leadership models from which we operate are rooted in particular values" (p. 30). Russell (2001) indicates that the personal values of servant leaders are what distinguish them from other leader types. He focuses on (a) trust, (b) appreciation of others, and (c) empowerment. Additional value themes in the literature include (a) following a guiding purpose (Blunt, 2003), (b) voluntarily submitting (Sendjaya, 2003), (c) being a servant (Sendjaya and Sarros, 2002) (d) desiring to help others (Spears, 1998; Batten, 1997), (e) moving from self-interest to service (Block, 1993; Chewning, 2000; Howatson-Jones, 2004; Tate, 2003; Ndoria, 2004), (f) loving followers (Banitu-Gomez, 2004; Whetstone, 2002; Wilson, 1998), (g) focusing on others (Kouzes and Posner, 1993), (h) suspending the need for control (Marquardt, 2000), and (i) creating a culture of self-leadership (Fairholm, 1997). Greenleaf further clarifies the core value in the service inclination when he states, "Caring is the essential motive" (p. 243). All of these values tend to have in common the leader placing the needs of others before the leader's needs.

Leader Attributes. Scholars indicate that a leader's behavioral characteristics emanate from personal values (Russell, 2001; Errol and Winston, 2005; Maciarelo, 2003; Snyder, Dowd, and Houghton, 1994). Accordingly, a number of scholars propose specific leader attributes for a servant leader. Common attributes include (a) authenticity (Sendjaya, 2003; Autry, 2001; Rinehart, 1998; DePree, 1989), (b) listening ability (Kuczynski and Kuczynski, 1995; Pollard, 1996; Hunter, 2004; Keichel, 1993), (c) relational focus (Kouzes and Posner, 1993; Sendjaya), (d) vulnerability (Kuczynski and Kuczynski; Autry; DePree), (e) vision (Banitu-Gomez, 2004; Kouzes and Posner; Howatson-Jones, 2004; Keichel), (f) dependability (Kouzes and Posner; Pollard), (g) role modeling (Whetsone, 2002; Banitu-Gomez), and (h) use of influence (Sendjaya; Whetstone 2002).

Outcome. There is some diversity in the literature regarding the outcome of servant leadership. Bennett (2001) believes servant leaders can enhance individual, team, and organizational performance. Additional outcomes include (a) growth in others (Rowe, 2003; Whetstone, 2002) and (b) empowerment (Hyett, 2003; Tate, 2003; Bowie, 2000; Wilson, 1998; Lloyd, 1996; Block, 1993; Rinehart, 1998). Though these perspectives are consistent with service reproduction, they do not specify this outcome.

Other authors more clearly specify the desired outcome of servant leadership as reproduction of the service inclination. Choi and Mai-Dalton (1998) indicate sacrificial leadership should bring reciprocation by the followers. Stone, Russell, and Patterson (2003) suggest the desired outcome is not service to the leader but service to others. Errol and Winston (2005) suggest that servant leaders build trust not only between leader and follower but also between followers. Similarly, Page (2004) believes servant leadership leads to interdependence among personnel. Blunt (2003), Buchen (1998), and Howatson-Jones (2004) all believe servant leaders help others to become leaders.

Summary. Scholars consistently regard servant leadership as having a value base that elevates service to followers above the leader's self-interest. Various leader attributes emerge from this value base. The desired outcome is typically consistent with or specified as a reproduction of the service inclination in the followers, even to the point of producing more leaders. This reflects Greenleaf's (1977) assertion that
Institutions led by servant leaders “will grow more leaders faster than any other course available to us” (p. 89). However, these non-model discussions do not propose clear causal relationships that produce the outcome.

**Leader-Organization Models**

One set of conceptual models focuses on the general way servant leaders function in an organization. Moreover, the writers often give attention to leader attributes, rather than reproduction of the service inclination, as the measure of whether servant leadership has taken place. The Russell and Stone (2002) model shown in figure 1 represents this type of construct.

Like the non-model discussions, Russell and Stone (2002) propose that “cognitive characteristics” (p. 153), including values and core beliefs, “incarnate through the functional attributes of servant leaders” (p. 153). They propose nine functional attributes that indicate the presence of servant leadership and eleven accompanying attributes that moderate “the level and intensity of the functional attributes” (p. 153). Furthermore, servant leadership itself is a dependent variable that subsequently functions as an independent variable affecting organizational performance. However, the model only gives limited attention to causal relationships between leader attributes, and the outcome is organizational performance rather than reproduced service.

Similarly, Wong and Page’s (2003) expanding ring model illustrates servant leadership that affects organizational processes. Wong and Page do mention service reproduction, but their ring model does not make this outcome explicit. Furthermore,

![Figure 1: Russell and Stone (2002) servant leadership model.](image)

Parolini (2004) builds on Wong and Page’s model with a competing values approach and clarifies the outcome as increased (a) organizational effectiveness, (b) business performance, and (c) financial performance.

Fairholm’s (1997) model leads to continuous improvement in people and programs. Smith, Montagno, and Kuzmenko (2004) propose the dual outcomes resulting from servant leadership are greater success in stable environments but lesser success in turbulent environments. Laub (2003) believes servant leadership should lead to the good of each individual, the whole organization, and those served by the organization. His tabular model proposes the evolution of a servant organization where “the characteristics of servant leadership
are displayed through the organizational culture and are valued and practiced by the leadership and workforce” (p. 3). Though this model is consistent with service reproduction, like the other leader-organization models it does not show the causal relationships between specific variables that reproduce the service inclination.

**Leader-Follower Models**

A second type of conceptual models focuses on the leader-follower relationship. Winston (2003) says Patterson’s (2003) leader-follower model improves on the leader-organization models by showing “the causal relationships between the variables in order to build a process model of servant leadership” (Winston, p. 602). Patterson's model begins with an *agapao* love construct, by which the leader considers the needs, wants, and desires of each person, as the independent variable. This appears to be consistent with Greenleaf's (1977) clarification of the service inclination as caring and with the general presentation by non-model positions that servant leadership is other-focused. Building from a leader's love, the Patterson model proposes the mediating relationships between specific leader attributes including, (a) humility, (b) altruism, (c) vision, (d) trust, and (e) empowerment that all lead to the outcome variable, service. Patterson identifies the independent and mediating variables as internal virtues, thus, all of these may rightly be part of the leader's service inclination. However, love, as the independent variable in the model, is the foundational cause of service. Patterson's description of service emphasizes the acts by which a leader serves a follower but only gives limited attention to the reproduction of the service inclination in followers. Her model does not clearly demonstrate reproduced service.

To improve Patterson's (2003) model, Winston (2003) proposed a circular extension shown in figure 2. By virtue of identifying the next stage in the model as the follower's love, the extended model better shows reproduction of the service inclination. The leader's love in Patterson's model echoes in the follower's love in Winston's extension, but it is not clear if the outcome, service to the leader, represents the full expression of a reproduced service inclination. Winston conceived the model as a dyadic spiral leaving unanswered the question of service reproduction on an organization-wide scale. The spiraling construct appears to derive from an earlier Farling, Stone, and Winston (1999) dyadic model that uses a corkscrew design. This version starts from leader principles, values, and beliefs and grows through the influence of the leader's (a) vision, (b) credibility, (c) trust, and (d) service. The outcome of this model also appears to be a leader's service to the follower rather than reproduced service inclination in the follower.
Summary

Greenleaf (1977) identifies the reproduced service inclination in followers as the true test of servant leadership. Other scholars concur with this outcome, even suggesting that servant leaders reproduce themselves on an organization-wide scale. However, the existing models do not clearly demonstrate this outcome. Leader-organization models tend to reflect general leader attributes but do not propose causal relationship between variables. Though leader-follower models do clarify causal relationships, they are not explicit as to how leaders reproduce the service inclination on an organizational scale. There is need for a model to demonstrate the reproduced service inclination at both leader-follower and leader-organization levels. A review of chaos theory literature provides concepts to allow construction of such a model.

Chaos Theory Constructs

Prior to the late 1970's, scholars defined chaos as disorder and randomness (Smith, 1995; Ferris, 1991). However, Lorenz’ (1993) search for a mathematical formula to explain chaotic weather patterns led scholarship to redefine chaos as unpredictability and complexity rather than randomness (Gedzelman, 1994; Smith, 2001; Batterman, 1993; Murphy, 1996; Smith, 2002). Accordingly, science now understands random events as those without cause. Unpredictable behaviors do have causes though they are presently unknown (Singh and Singh, 2002; Stark and Hardy, 2003; Cartwright, 1991). Ironically, underlying this definition is a belief that the universe is inherently well-ordered and predictable, that is, it is deterministic (Smith, 2001; Smith, 2002). Some posit the deterministic causes to be complex (Smith, 2002; Iannone, 1995), while others indicate causality may be quite simple (Lissak, 1997). Batterman (1993) explains that unpredictable events
may only appear random to the set of variables used to measure the events. With different measurements, the chaotic system may appear simple and predictable. Smith (1995) identifies three elements in chaotic systems including (a) sensitive initial conditions, (b) self-similarity, and (c) iterative feedback. These constructs are part of what reveal the attractor of a chaotic system (Wheatley, 1994).

**Initial Conditions**

Prior to the development of chaos theory, the generally held axiom was that a change in an initial condition resulted in a proportional change in the outcome (Tetenbaum, 2001; Firth, 1991; Murphy, 1996). However, Lorenz (1993) postulated that a butterfly flapping its wings in Brazil could lead to a tornado in Texas (Pepper, 2002). The butterfly effect suggests that changes in the outcome are not proportional to changes in the initial condition. Rather, very small variances can amplify into unpredictable results (Doherty and Delener, 2001; Hartman, 2003; Smith, 2002; Singh and Singh, 2002; Thiertart and Forgues, 1995; Seeger, 2002; Flake, 1998; Ravilious, 2004; Murphy; Firth). In chaotic systems, small initial conditions may evolve to have large-scale effects.

**Self-Similarity**

Part of the evolution of initial conditions occurs because of the self-similarity property that Carr (2004) identifies as a fractal quality. A fractal is an object whose form is the same regardless of scale (Mandelbrot, 1977; Doherty and Delener, 2001). It is a self-repeating feature (Thiertart and Forgues, 1995; Seeger, 2002). Wheatley (1994) states, "Fractal principles have given us valuable insight into how nature creates the shapes we observe. Mountains, rivers, coastlines, vegetables, lungs, circulatory systems...are fractal, replicating a dominant pattern at several smaller levels of scale" (p. 162). Singh and Singh (2002) hypothesize that fractal features can exist in any dimension and anywhere between dimensions.

**Iterative Feedback**

An additional mechanism that allows initial conditions to amplify unpredictably and that allows a fractal to reproduce throughout a system is iterative feedback. Wheatley (1994) describes iteration as, "information feeding back on itself and changing in the process" (p. 160). Tetenbaum (1998) believes feedback loops are the focus of chaos. The output of each cycle provides the material to begin a new cycle and produce further outcomes (Murphy, 1996; Burns, 2002). With each pass of the feedback loop, small changes, in the form of moderating and mediating influences, introduce variation into the system. Citing Lorenz' (1993) chaotic weather patterns, Firth (1991) states, "A massive volcanic eruption, or meteor strike, might kick the weather off...structure" (p. 1566). Smith (2002) calls these "situational variables" (p. 522), while Doherty and Delener (2001) call them "small changes in the system" (p. 68). However, because chaos theory is not random, there is a boundary to the variation—the strange attractor.

**Strange Attractor**

An attractor is a point or multidimensional pattern to which a system tends to move towards (Pepper, 2003; Smith, 2001) or away from (Smith 2002). Eiser (1997) and Duffy (2000) suggest that initial conditions determine the nature of the attractor. The attractor initiates and reproduces the basic structure of a system (Murphy, 1996; Smith, 2002; Doherty and Delener, 2001; Svyantek and DeShon, 1993). Moreover, a strange attractor is a state that repeats itself closely, but never exactly, giving the attractor a fractal quality modified by iterative feedback (Smith, 2002; Singh and Singh, 2002). Thus, the attractor creates the order within chaos (Thiertart and Forgues, 1995), and chaos never exceeds the limits of the strange attractor (Wheatley, 1994; Svyantek and DeShon). However, Burns (2002) points out "after multiple iterations the calculation... becomes... unpredictable" (p. 44).

**Summary and Model**

Chaotic systems contain multiple elements including (a) sensitive initial conditions, (b) self-similarity, (c) iterative feedback, and (d) attractors. Because the feedback processes and fractal qualities of a chaotic system cause cyclical but unpredictable evolution of the initial conditions across multiple dimensions, a two-dimensional model of chaos is quite limited. However, Singh and Singh (2002) provide a diagram that serves as the conceptual basis for a chaotic model in figure 3 utilizing the constructs discussed above. In the model, the fractal and feedback qualities of the system cause the strange attractor to function as (a) an initial independent variable, (b) the subsequent dependent variable, and (c) the subsequent independent variable (Murphy 1996).
Servant Leadership as a Chaotic Leadership Theory

Scholars recognize that chaos theory is applicable to organizational theory. Singh and Singh (2002) state, "Chaos is the study of unstable aperiodic behavior in deterministic, nonlinear, dynamical (changing) systems" (p. 31). Similarly, Thiartt and Forgues (1995) identify organizations as dynamic, nonlinear systems. Svyantek and DeShon (1993) suggest that organizations are complex systems with attractors. Venkatadi, Rardin, and Benoit (1997) call the fractal cell the basic unit of an organization, and Wheatley (1994) states, "Fractal organizations...expect to see similar

![Diagram](Figure 3: Modified Singh and Singh (2002) chaos model)

behaviors show up at every level in the organization because those behaviors were patterned into the organizing principles at the very start" (p. 163). Furthermore, strong comparisons exist between servant leadership constructs and chaos theory constructs.

Values as Attractor

Greenleaf (1977) suggested servant leaders begin with the service inclination. Similarly, chaos theory begins with (a) initial conditions (Smith 1995), (b) a strange attractor (Murphy 1996), or (c) the basic fractal shape (Thiartt and Forgues, 1995). An important point of contact is that a psychological construct, like love (Svyantek and DeShon, 1993; Briggs and Peat, 1989; Murphy), or organizational culture (Murphy) may fill the role of strange attractors.

Influencing Variables

Scholars believe leader characteristics emerge from the servant leader's values. Non-model and leader-organization writings provide lists of attributes that mark the practice of servant leadership. Leader-follower models propose the mediating relationships between the attributes that produce service. Likewise, chaos theory posits situational variables that alter the system (Smith 2002).

Amplifying Feedback

The dyadic servant leadership models of Farling et al. (1999) and Winston (2003) view the leader-follower relationship in an ever-growing spiral as the relationship cyclically adjusts for maturity. Likewise, chaos
theory proposes cyclical iterations in (a) fractals (Mandelbrot, 1977), (b) the strange attractor (Murphy 1996), and (c) the feedback loop (Tetenbaum 1998).

Summary and Model

A comparison of servant leadership and chaos theories demonstrates remarkable similarities between the two constructs. The loving, caring service inclination of servant leadership appears to be a strange attractor that begins as an initial condition then amplifies due to modifying influences and feedback. Patterson's (2003) mediating relationships between leader attributes and Winston's (2003) belief that maturity is a moderating variable echo some of the modifying influences of chaos theory. Greenleaf's (1977) reproduced service inclination is similar to the chaotic strange attractor that feeds back to become the independent variable of the next cycle. Because of these similarities, this study posits servant leadership as a chaotic theory of leadership and proposes a chaotic servant leader model.

Starting from the Winston (2003) extension of the Patterson (2003) model, the chaotic servant leadership model in figure 4 shows the loving, service inclination functioning as a fractal strange attractor that is (a) an initial independent variable, (b) the subsequent dependent variable, and (c) the subsequent independent variable. The system amplifies when this fractal shape not only feeds back to the leader but also emerges in a new leader line. In each instance, love initiates the other internal constructs that lead to actions of service. Note how scripture gives the initial condition of love. John says, "In this is love, not that we loved God, but that He loved us" (1 John 4:10). Jesus then speaks to feedback with "Love the Lord your God with all your heart" (Matthew 22:37) and to chaotic amplification with "Love your neighbor as yourself" (Matthew 22:39). Figure 5 takes the fractal shape of the chaotic model of servant leadership to several possible iterations.
Figure 4: Chaotic servant leadership model built from Patterson (2003)/Winston (2003) model.

Figure 5: Chaotic model of servant leadership with possible iterations
Thus, the chaotic servant leadership model shows clear causal relationships between variables and explains the reproduction of the service inclination at both dyadic and organizational scale representing an improvement over current models. Conceptualizing servant leadership as a chaotic theory also provides possible areas for further research.

1. Singh and Singh (2002) point out that a chaotic system may have both positive and negative feedback. Positive feedback amplifies the system while negative feedback stabilizes the system. Winston (2003) suggests growing maturity causes growth in the dyadic spiral while declining maturity causes a corresponding decline. What other relational or organizational features operate as either positive or negative iterative feedback mechanisms?

2. Smith (2002) points out that a chaotic system may have both positive attractors to which the system is drawn and negative attractors from which the system is repelled. Page and Wong's (2003) opponent process model of servant leadership suggests authoritarian hierarchy and egotistical pride are negative attractors for servant leadership. Are their other variables that may serve as negative attractors in the chaotic servant leadership model? How does the system react when a leader who possesses negative attractors follows a servant leader at the helm of an organization?

Conclusion

Current servant leadership models tend to focus either on the leader-organization dimension or on the leader-follower dimension. They also do not clearly demonstrate the reproduction of the service inclination. However, the addition of chaotic concepts, particularly a fractal construct, allows modification of the Patterson (2003)-Winston (2003) servant leader model to show service reproduction at both dyadic and organizational scale.

To test for the fractal variable in the chaotic model of servant leadership, the study proposes a case study design that selects an institution led by a servant leader. DeVaus (2002) says about an explanatory case study, "On the basis of a theory we predict that a case with a particular set of characteristics will have a particular outcome" (p. 221). Accordingly, positing that servant leadership is a chaotic theory predicts the cyclical presence of the strange attractor, service inclination. Because the model builds from Patterson's (2003) servant leadership model, the leader's service inclination operationalizes as agapao love. Love initiates the other constructs and results in the outcome.

Asher (1983) also indicates one must construct reliable and valid indicators in research. Because the service-inclination materializes through leader attributes, these may serve as an indicator of the presence of servant leadership and therefore the service inclination. Because Greenleaf (1977) indicates the true test of servant leadership is reproduction of the service inclination, an additional indicator of the presence of servant leadership should be the presence of servant leader attributes, which emerge from the reproduced service inclination, in followers.

Patterson's (2003) leadership attributes include (a) humility, (b) altruism, (c) trust, (d) vision, (e) empowerment, and (f) service. Sendjaya and Sarros' (2003) servant leadership scale provides subscales with similar constructs including, (a) humility, (b) moral actions, (c) trust, (d) vision, (e) empowerment, and (f) acts of service. Their instrument may serve as an effective tool to measure the presence of relevant attributes. Laub's (1999) Organizational Leadership Assessment (OLA) may also be effective due to his belief that servant leader qualities should be evident throughout the organization. The important element in this design is that the research is looking for the growing presence of servant leader attributes in both leaders and followers.

Jesus stated the kingdom of heaven is like a mustard seed that starts small but grows large and is like leaven that works its way throughout the dough. Because the chaotic servant leadership model anticipates ongoing iterations and fractal reproductions, the longer the tenure of a servant leader the greater the number of followers who should exhibit servant leader attributes. If the true test of servant leadership is producing more servant leaders (Greenleaf 1997), then servant leadership functioning at the dyadic scale should eventually have organizational-wide influence. The chaotic servant leadership model explains how this occurs.
References


