



## THE UNIVERSAL SERVANT

*Reflections on Robert Greenleaf's Servant-Leadership as Related to Brian Greene's The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory*

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The wise see the Lord of Love in the sun,  
Rising in all its golden radiance  
To give its warmth and light and life to all.

—Prashna Upanishad

He laid the earth for his creatures, with all its fruits and blossom-bearing palm, chaff-covered grain and scented herbs. Which of your Lord's blessings would you deny?

—The Koran 55:1

You cause the grass to grow for the cattle, and plants for people to use, to bring forth food from the earth, and wine to gladden the human heart, oil to make the face shine, and bread to strengthen the human heart.

—Psalm 104:14, 15

He maketh his sun to rise on the evil and on the good, and sendeth rain on the just and on the unjust.

—Matthew 5:45

The greatest quality is seeking to serve others.

—Atisha Dipankara



## THE QUESTION

As a Christian pastor I appreciate the physical acts of worship, performed by people situated in place, space, and time. When people lift their hands in grateful worship and engage in a plethora of other meaningful activities, their circulatory, digestive, endocrine, immune, lymphatic, muscular, neural, reproductive, respiratory, skeletal, and urinary systems all participate in some manner to make human actions possible. These multiple acts of creativity depend on a universe conducive to life. Put more evocatively, we might state that all of us and the world surrounding us are served by the universe or nothing would exist. This primary human experience of universal servanthood gives rise secondarily to the poetic expressions of worship introducing this article. As socially constructed meaning in interaction with physical reality (Crotty, 1998), these religious verses across traditions speak of how creation, often at the behest of a creator, serves life.

This primary human experience of universal servanthood also begs a question: To what extent can the universe, at its most foundational physical level, be conceptualized as a servant to life? Asked more finely, is there a scientific theory—likewise a social construction of meaning interacting with physical reality—that resonates sufficiently with the servant-leadership described by Robert Greenleaf (1977, 2003) to permit conceiving of the universe as a servant, that is, as modeling servant-leadership? As we shall see shortly, one candidate for such a scientific theory might be String Theory (Greene, 2003).

## ORIGINS

Prior to examining scientific theory, however, we begin with the human primary and daily experience of the universe as a servant. The concept of the universe as a servant that empowers living, loving, and servant-leadership seems suggested by our first human experiences of the world. Debate continues as to how much awareness a child feels in the womb (Lagercrantz & Changeux, 2009). With or without consciousness of care received, however, the experience of the fetus is one of protection until birth unless other circumstances intervene (Hanson & Silfverdal, 2009). Parents of newborns learn to respond appropriately to their babies' cries (Tedder, 2008), reinforcing the newborns' postpartum sense of the world as trustworthy (Petersen & Wittmer, 2008). The bond with nurturing parents creates knowledge of, and



appreciation within children for, the wider world, including a relationship to the arts (Serbun & DeBono, 2010).

The observation that the fetus' and then child's initial experience of the world is that of being served does not negate the reality of children at risk even in the developed world (Waylen & McKenna, 2009). Nor does it obscure differences in trust of the world between humans due to age or experience (Sheikh & Marotta, 2005). Nevertheless, as children emerge into adulthood they discover that a trusting orientation toward the other leads to rewarding collaboration (Muethel, Siebdrat, & Hoegl, 2009). Indeed, it might be argued that for humans to function at all they need to presume that the universe is sufficiently trustworthy to serve their living (Kung, 1980).

The entire universe as a trustworthy precondition that undergirds human existence concerned Kung (1980). In his seminal theological work "Does God Exist?" he took numerous renowned twentieth-century philosophers to task for leaving God and faith out of their ruminations. Kung noted that simple acts, such as rising from bed and putting one's feet on the floor, represent acts of faith performed unreflectively. Humans presume with unwavering confidence that the floor—emblematic of the universe—rises to meet them, extending itself in anticipation of them.

The literature above explicates what many humans, with or without religious inclinations, discover in their personal experience throughout their lives: In spite of episodic disappointments, the universe is trustworthy and life-giving (Brooks, 2008). It serves their needs. Why this is so continues to prompt speculation (Lal, 2008). Historically, humans have equated the trustworthiness of the world with religious myth and practice as exemplified by the religious verse opening this article. As Gronbaek (1985) explained it, "Creation was a feature of the mythic realm, and as such its home was in the cult whose sacred words and deeds (myths and rites, respectively) were intended to ensure the continued existence of the world, rather than to explain the origin of things" (p. 27). In summary, the human experience of the life-giving universe lends itself to mythic and religious expression.

#### THE MYTHIC UNIVERSAL SERVANT

Might the universe as servant give rise to more contemporary myth? Hesse's *The Journey to the East* (1956) related the mythic story of the



servant Leo who empowered the movement of the travelers. When Leo disappeared from the caravan, his significance became clearer: “The stronger these feelings became, the clearer it seemed to me that it was not only that I had lost faith in finding Leo again, but everything now seemed to become unreliable and doubtful; the value and meaning of everything was threatened: our comradeship, our faith, our vow, our Journey to the East, our whole life” (p. 40).

The power of one servant to determine thoroughly the success of everything invites projection. It seems possible that Leo might serve as a literary precondition for meaning and life, that is, he might embody mythically a trustworthy universe that undergirds human existence. Leo might be perceived as representing the universal orientation of servanthood discovered in the world once Being becomes conscious of itself (Heidegger, 1962). Although laden with theological assumptions, the statements opening this article borrowed from diverse faiths make a similar suggestion: The universe gives the gift of life and empowers its abundant manifestations. Because human beings share in Being (although with consciousness, which distinguishes humans in Being without separating humans from it), it might be posited that humans are invited to share intentionally in the universe’s servanthood. They are relationally positioned to be for the world (Walsh & Lantz, 2007). This reflective intentionality might give birth to suggestive scriptures that specify the servant-leadership role of humans as intrinsic to them (Genesis 1:26–30; 2:15–22).

Leo, although not explicitly linked to the universe’s servanthood, suggested to Greenleaf (2003) an emerging model of natural servant-leadership that has universal implications. Greenleaf expressed his confidence in servant-leadership in this way:

*To the extent that this principle prevails, the only truly viable institutions will be those that are predominantly servant led. And with this hope there will be an openness of style in which leaders will be natural people acting naturally, mortal people subject to error and deserving forgiveness like everyone else. (pp. 32–33; italics added)*

While we might suppose that Greenleaf most likely meant natural to mean without pretense (2003), natural implies also what is consistent with human nature, that is, being human without any ideological separation between the physical, the emotional, the reflective, or the exercise of will



(Heidegger, 1962). How does the universe as servant fit with the image of the natural human as servant? On the one hand, Greenleaf (1977) stated a definition of the outcomes of servant-leadership that suggests human intentionality:

*Do those served grow as persons? Do they, while being served, become healthier, wiser, freer, more autonomous, more likely themselves to become servants? And, what is the effect on the least privileged in society? Will they benefit or at least not be further deprived?* (p. 27; italics added)

On the other hand, while attributing intentionality to the universe would suggest an unnecessary religious conviction or anthropomorphism, certainly few would doubt that the outcomes of servant-leadership as human activity are preconditioned by the existence of a universe that fosters human life. The universe, as it is, allows for human growth, health, wisdom, freedom, autonomy, servanthood, and justice. Therefore, the suggestion arises that one way to conceptualize the universe as a mythic social construction might be as Leo, the servant and servant-leader.

What are the implications of such a conceptualization of the universe should it prove to have a basis in foundational scientific theory? Three come to mind.

First, the concept of the universe as grounding servanthood might lead to a unification of leadership theory around servant-leadership. Intimations of this conclusion are found in the servant-leadership literature. Greenleaf's (2003) own vision of servant-leadership implied the possibility that surviving institutions would have to be servant-led, and that servant-leadership had individual and global import. Edited publications that have succeeded Greenleaf's work, for example, Spears's (1995) *Reflections on Leadership*, Spears's (1998) *Insights on Leadership*, Spears's (2004) *Practicing Servant Leadership*, and *The International Journal of Servant-Leadership* (years 2005 to 2009) cited both examples of leadership styles found in other literature that tie to servant-leadership (Hamilton & Knoche, 2007) and examples of servant-leadership emerging in culture (Takamine, 2006). Servant-leadership provides a model that sweeps away other failing models of leadership (Hammermeister et al., 2008).

Second, the concept of the universe as servant that grounds servanthood may be a means for unifying religious ethics. Autry (2004) framed



servanthood as the unifying model that embodies the practice of diverse religious traditions:

I think Jesus is a terrific model, but I think a lot of the interpretations of Christianity distort that model of servant-leadership...you could also look to the Buddha, to the prophet Mohammed, or to Moses; there are leaders and role models in all these faith traditions....You sincerely have to start with what you yourself are wanting to become, the being and becoming of you. To me that's what the servant's heart is about. (pp. 67–69)

Third, the concept of the universe as servant implies the embedment of this article in the modern tradition of uniting scientific and leadership theories. Frederick Taylor (1911) was cited as the single most influential thinker regarding management theory, while also being a favored target of those arguing for an allegedly more human manner of management. Yet Taylor appealed to science in order to escape tradition or mere opinion that lacked foundation (Cruz, 2006). Von Bertalanffy (1950) proposed viewing phenomena through an open systems approach drawn from physics and biology. This approach bore fruit in the work of Senge (2006), to name just one scholar who wrote with a systems perspective. Zohar (1990) sought to use the insights from the microworld of quantum mechanics to unite in explanation such diverse human phenomena as consciousness, friendship, eternal life, psychology, creativity, and God. She sought to move quantum mechanics from being merely the basis of analogies concerning life to being the actual explanation of human phenomena. Wheatley and Frieze (n.d.) pointed out the relationship between complexity and emergence, on the one hand, and leadership, on the other. The notions of complexity and emergence arise from the work of physicists concerned with chaotic non-linear dynamical systems in which order emerges due to physical strange attractors (Wheatley, 1999). Griffin (2002) based his model of leadership on the same scientific foundation. Handy (1997) cited the theoretical presentation of matter and energy as either particle or wave, forming bundles of potentiality, as a useful metaphor to describe human interactions within organizations. He also relied on the science of electromagnetic fields to speak metaphorically of the need for organizational trust rather than control. McCollum (1995) attempted to bring together Greenleaf's vision of servant-leadership with the science of chaos and complexity.

One might guess these approaches share the common presupposition that reality possesses an irreducible physicality expressed in all phenomena.



Servant-, or any other type of leadership for that matter, may be said to be acting realistically inasmuch as it discerns and respects this physicality. The search for an adequate foundational description of this physicality leads finally to the originating queries of this article: To what extent can the universe be conceptualized, at its most foundational level, as a servant to human life? Is there a foundational scientific theory that resonates sufficiently with the servant-leadership described by Robert Greenleaf (1977, 2003) to conceive of the universe as a servant, that is, as modeling servant-leadership?

#### STRING THEORY INTRODUCED

One candidate for scientific theory that might contribute to conceptualizing the universe as servant is String Theory which, in its current sub-theory unifying iteration, is known as M Theory (for the sake of clarity, the entire body of theory will be referred to in this article as String Theory) (Greene, 2003). Although criticized for lacking scientific basis (Statile, 2007) and presuming a reductionist approach to truth (Zapperz, 2006), String Theory appears in the literature as a persistent although highly speculative candidate for a theory of everything (TOE) that brings together theoretical physics and cosmology. This makes String Theory a candidate for exploration of its leadership consequences. Unfortunately, this one article cannot explore exhaustively all possible ties between one complex scientific theory and every model of leadership. The hope is that the choice to reflect briefly on the universe's servanthood through the medium of three aspects of String Theory might encourage other students of science and leadership to take a critical approach to this article. This article is also an invitation to explore leadership theory through the lens of other scientific theories.

#### *Disclaimer*

String Theory lies outside the realm of laboratory proof and lives on mainly in mathematical equations. The three aspects of String Theory to be explored below reflect an emerging consensus among String theorists, although these theorists remain divided over several details of the theory. This division includes the question as to whether or not there might be a deeper theory of everything that might surface eventually, such a theory including the M iteration of String Theory within its scope.



## *The Quest of String Theory*

Greene (2003) wrote *The Elegant Universe: Superstrings, Hidden Dimensions, and the Quest for the Ultimate Theory* for the sake of “a young student trying to decide on a direction of study, a working professional seeking something beyond the daily grind, or a retiree who’s finally found the time to read up on developments in science” (p. iv). In it he explained the hypothetical structure of the macroscopic and microscopic universe, brought together speculatively on the basis of String Theory. The simplicity and accessibility of Greene’s explanations of complex phenomena makes it a mechanism for relating String Theory to servant-leadership. For example, he offered this initial straightforward summary of String Theory:

String theory adds the new microscopic layer of a vibrating string to the previously known progression from atoms through protons, neutrons, electrons and quarks...this simple replacement of point-particle material constituents with strings resolves the incompatibility between quantum mechanics and general relativity. String theory thereby unravels the central Gordian knot of contemporary theoretical physics...everything, all matter and all forces, is unified under the same rubric of microscopic string oscillations—the “notes” that strings can play. (pp. 14, 15)

The quest for the unification of all physical theory lies at the heart of String Theory. Gates (2006) stated in his lectures on String Theory that String Theory represents a theory of everything arising from quantum mechanics. Yet Greene (2003) asserted that String Theory has the power to interpret gravity, a force that traditionally has been viewed as beyond a quantum explanation. While arguments arise as to whether complexity theory and String Theory represent different physical theories, the presupposition of String theorists is that ultimately complexity and chaos, like gravity, are derivative from quantum mechanics and therefore String Theory. They do so in spite of the charge of reductionism (Laughlin, 2005).

### THE PROPOSED ASPECTS FOR REFLECTION

I propose exploring three aspects of String Theory presented by Greene (2003) that I believe connect String Theory to servant-leadership. The three aspects are

1. String Theory’s emphasis on wholeness and healing;



2. String Theory's premise of the possibility either of extra dimensions, or dark matter and energy; and
3. String Theory's observation regarding determinacy and free will.

### *Positing a Deep Wholeness*

Greene's (2003) explanation of String Theory attempts to ground mathematically what many physicists presume: There is a deep symmetrical unity to the universe on multiple levels (Ramond, 2010). Greene sounds a prophetic vision advocating faith:

The ultimate theory would provide an unshakable pillar of coherence forever assuring us that the universe is a comprehensible place. (p. 17)

As it has developed String Theory has expanded to offer an explanation of such crucial physical assumptions as subatomic particle spin and the positing of supersymmetry between known particles and as yet unverified superpartners. Third generation M Theory represents an attempt to unify various string theories with one another, and with supergravity's extra dimensions, by positing extra spatial characteristics for strings. The extra spatial characteristics allow movement between strings and multidimensional branes, honoring the mathematics of the various string theorists. Each incarnation of String Theory has deepened it without yet answering all questions regarding it. For example, waves, which are so vital to quantum theory, do not yet have an explanation in string theory, according to Gates (2006). Greene did not address this question directly, but he implied that the question as to how strings give rise to wave-like quantum properties awaits an answer. Although this brief explanation of the intricacies of String Theory sacrifices clarity to brevity, the essential observation to be made is that String Theory suggests an explanation for the posited symmetric wholeness of the universe.

Greene (2003) and Gates (2006) promoted a surprising generosity of spirit. Rather than reductionist arrogance or the desire to promote a ruling grand narrative, they communicated a yearning for their respective audiences to see in the universe a dependable wholeness. One illustration is found in Greene's explanation for the possibility of tears in space-time. While excluded by Einstein, String Theory both alludes to the possibility that tears can happen and offers a reason why such tears do not result in the catastrophic results to which the recent and most awful movie *Land of the Lost* (2009) alluded. Specifically strings, which theoretically are not bound



to one time and place according to quantum theory, wrap themselves around rifts in the space-time continuum and heal them.

The alleged orientation of the universe to self-heal, so that unity and life continue, echoes an image found in Greenleaf's (1977) *Servant as Leader*:

The narrator notes that a movement of substance is taking place within the transparent sculpture. "I perceived that my image was in the process of adding to and flowing into Leo's, nourishing and strengthening it. It seemed that, in time...only one would remain: Leo. He must grow, I must disappear." (p. 61)

Greenleaf made the following remark about healing: "This is an interesting word, healing, with its meaning, 'to make whole.' The example above suggests that one never really makes it" (1977, p. 50). It appears that Greenleaf meant that one's own healing, or the healing of the wider world, continues as a life-long task. String Theory apparently agrees with this assessment: the propensity for tearing and healing may lie in the depths of our universe, and to live consistently with it is to be the servant-leader acting in healing love. This conclusion may buttress the belief that the universe may break, but it always bends toward forgiveness, reconciliation, and justice, that is, toward healing (Ferch, 2004).

### *The Power of the Unseen*

String theory derives its name from the theoretically grounded conviction that vibrating strings produce more than the visible particles found in our universe. According to Green (2003), they produce also invisible so-called superpartners:

First, from an aesthetic standpoint, physicists find it hard to believe nature would respect almost, but not quite all of the symmetries that are mathematically possible....Second, even within the standard model, a theory that ignores gravity, thorny technical issues that are associated with quantum process are swiftly solved if the theory is supersymmetric. The basic problem is that every distinct particle species makes its own contribution to the microscopic quantum-mechanical frenzy. Physicists have found that in the bath of this frenzy, certain processes involving particle interactions remain consistent only if numerical parameters in the standard model are fine tuned...to cancel out the most pernicious quantum effects. (p. 174)

Supersymmetry in String Theory takes on, at minimum, one of two forms. Greene espoused the school that says that supersymmetry requires



additional, curled-up dimensions, making the total number of dimensions ultimately eleven. These are our three classical spatial dimensions; our one classical time dimension; plus seven more dimensions that are unseen and unverifiable experimentally for the foreseeable future. Gates (2006) offered an alternative, that being to posit that the superparticles explain the dark matter and energy that are alleged to be causing the increasing expansion of the universe. Both options can explain critical components of our universe's nature, and both suggest that superparticles lie within our immediate grasp, although without visibility or experimental verifiability as yet.

Life and the universe itself, as we know them, depend upon these superpartners, these extra heavy gifts that linger elusively in creation. Yet, in spite of their significance to our existence, their location and momentum in time and space remain beyond our comprehension. Greene (2003) offered an unsettling picture of the presence of the invisible dimensions that he contended hold safely our vital superpartners:

These dimensions are an integral and ubiquitous part of the spatial fabric; they exist everywhere. For instance, if you sweep your hand in a large arc, you are moving not only through the three extended dimensions, but also through these curled-up dimensions. Of course, because the curled-up dimensions are so small, as you move your hand you circumnavigate them an enormous number of times, repeatedly returning to your starting point. (p. 208)

Greenleaf (1977), too, believed in our proximity to the unseen that shapes life and leadership:

Loss, every loss one's mind can conceive of, creates a vacuum into which will come (if allowed) something new and fresh and beautiful, something unforeseen—and the greatest of these is love....Remove the blinders from your awareness by losing what must be lost, the key to which no one can give you, but which your own inward resources rightly cultivated will supply. Then set forth upon your journey and, if you travel far enough, filling the voids of loss with the noblest choices, you may be given the secret of the kingdom: awe and wonder before the majesty and the mystery of all creation. (pp. 339, 340)

Greenleaf's (1977) invitation for us to have faith that the vacuum and void of the unseen will be filled with gifts, and his insistence that it is in the journey that ultimately the secret is revealed, find an echo in Greene's (2003) own final poetic speculation about the way forward, whatever the



outcome of String Theory. Its true meaning lies in the pursuit of the yet unseen:

As we fix our sight on the future and anticipate all the wonders yet in store for us, we should also reflect back and marvel at the journey we have taken so far. The search for the fundamental laws of the universe is a distinctly human drama, one that has stretched the mind and enriched the spirit. Einstein's vivid description of his own quest to understand gravity—"the years of anxious searching in the dark, with their intense longing, their alternations of confidence and exhaustion, and final emergence into the light"—encompasses, surely, the whole human struggle. We are all, each in our own way, seekers of the truth and we each long for answers to why we are here.

Greenleaf and Greene recognized the power and proximity of the meaningful unseen.

### *Freedom and Determinism*

According to Greene (2003), Newtonian physics led to the conclusion that if the researcher knows the placement and momentum of all objects at one time, all human events can be predicted. The subsequent arrival of quantum mechanics and vibrating strings left room for some doubt, specifically urging the conclusion that outcomes can only be predicted within a range of probabilities. Nevertheless, this quantum mechanical insight retained the flavor of ultimate determinism. We should note that chaos theory does not change the algorithm: As chaos theory was interpreted by physicist Strogatz (2008), the theory presumes both determinism and the universe's horizon of predictability to be a few million years.

The conclusion that black holes existed changed this conclusion temporarily because a black hole is a theoretical construct that, by original definition, absorbs everything through its extreme gravitational power. Black is black (Greene, 2003). This means that information force carrying particles (and their wave functions), such as photons, cannot escape black holes. Because particles like photons carry information related to force; and thereby carry also information regarding the outcomes of force that lead to predictions of probability; all possibility for determinism and foreknowledge of probabilistic outcomes is, by definition, sucked into black holes.



Predictability and determinism, even within the limits of probability, are lost to the universe within black holes.

Hawking's (1996) subsequent conclusion that black holes actually radiate energy rather than absorbing all energy, which is a revised understanding of black holes explained later and uniquely by String Theory mathematics, leads to the possibility that information does escape black holes due to the quantum possibility of tunneling (Gates, 2006). Adding to the possibility is the further insight that black holes may disintegrate over time, releasing information previously captured back to the universe, according to Greene (2003). Granted this revision of theory, determinism within the limitations of probability is restored as an intriguing challenge to any notion of human freedom.

How do these aspects of String Theory and black holes relate to Greenleaf? Greenleaf (2003) emphasized both leadership initiative and goal seeking, on the one hand; and he emphasized leadership knowing the unknowable (in light of information gaps), foresight, and awareness, on the other. The former relates physically to freedom; the latter relates physically to determinism within the range of probability, or else there would be nothing to know, foresee, or of which to be aware approaching from the future. The universe's paradoxical tension between information and freedom, both gained and then lost, may provide a theoretical underpinning for Greenleaf's (1977) paradox.

#### EPILOGUE

String Theory is a speculative theory of everything that invites experimental proof, revision in light of new discovery, and the development of other ambitious theories. Nevertheless, String Theory as it stands currently possesses elements that suggest the conceptualization of the universe as a servant, a premise expressed in religious discourse. The conceptualization of the universe as servant supports the human experience, beginning in the womb. One implication of this article is that it builds upon continuing efforts to build relationships between physical science and leadership. The concept of universe as servant suggests the possibility that servant-leadership, grounded in String Theory as a theory of everything, may qualify as a unified theory of leadership and a unifying touchstone for religious ethics across dogmatic expressions.



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