A nonlinear dynamics approach to exploring the spiritual dimensions of occupation

December 31, 2007 - Practitioner
Tina T. Champagne, Tina Champagne, Janice Ryan, Howard Saccomando, Ivelisse Lazzarini

Abstract

The spiritual dimensions of occupation are explored using a dynamic systems model to address the interrelationships between spirit-mind-body-world. A deeper appreciation of the wholeness of human occupation emerges within a spiritual paradigm reflecting the fundamental complexity, nonlinear processes, and pattern flow formation of dynamic human occupation. Emergent perceptions about life-meaning, purpose, and identity are understood through the model of intention, meaning, and perception, influencing the system-wide changes that occur during spiritual occupation. Viewing spiritual occupation as both the creative process (means) and as engagement in spiritual activities (ends), which sustain and support life and health, affords a nonlinear view of the spiritual dimensions of personal growth through the process of self-organization and self-transcendence. Thus, facilitating a deeper conceptualization and understanding of human beings. Dynamic systems modeling of broad and deep spiritual occupations further validates the theory and practice of occupational therapy by addressing the full complexity of occupation as an embodied process of spirit-mind-body and world.

Introduction

Within the philosophy of occupational therapy, human beings have been recognized as nonlinear dynamic systems, albeit, this premise is poorly established in the profession due to the historical use of linear concepts and research methods within the medical model. Nonlinear dynamics has only recently been explored as a model for studying the complexity and inherently creative and spiritual essence of the therapeutic relationship, and the dynamics of human occupational experience (Lazzarini, 2004). As occupational therapists strive to facilitate self-organization and positive change among dynamic human systems, understanding of occupation as a complex process involving spirit-mind-body-world, is required. A dynamic systems model enhances the ability to offer quintessentially person-centered practice and assist therapists in considering, explaining, and researching the full potential, meaning and efficacy of occupational therapy services.

The science of nonlinear dynamics offers a profound way of conceptualizing and studying the dynamics of human occupation. With its roots in mathematics and modern physics, nonlinear dynamics has become a “meta-paradigm” offering a scientific method for deepening our understanding of how human beings self-organize, change over time, and ultimately self-transcend (Abraham, Abraham & Shaw, 1990; Haken, 2002; Kelso, 1999). Nonlinear dynamics has been applied extensively in the life sciences to illustrate the patterns that emerge from open, living, far from equilibrium systems (Capra, 1996; Kelso, 1999; Prigogine, 1996); while affording the ability to study the inter-relationships and inter-dependence by which complex patterns of behavior emerge. Thus, providing a framework in which to explore how local interactions give rise to self-organization, pattern formation and system-wide change. In the words of Ilya Prigogine, “we are observing the birth of a science that is no longer limited to idealized and simplified situations but reflects the complexity of the real world, a science that views us and our creativity as part of a fundamental trend present at all levels of nature” (1996: 7). This paper will explore the importance of applying nonlinear dynamics in occupational therapy practice and propose that a nonlinear approach will enable the recognition of spiritual occupation as fundamentally creative, life supporting, and embodied; significantly influencing self-organization and self-transcendence.

Spirituality and life meaning

Spirituality and occupational therapy
Occupational therapy has, from its philosophical roots, addressed human occupation and the spirit-mind-body-world (Lazzarini, 2004; Meyer, 1921/1977) as a dynamic, emergent, and experiential process through which people create meaning. Although “healing philosophies since the time of Hippocrates” have acknowledged the spiritual dimension, most theoretical models of occupation had ignored its importance to meaning-making (Christiansen, 1997: 169). The recognition that self-organization, self-actualization, and a sense of well-being occur through engagement in meaningful occupation (Meyer, 1921/1977; Rogers, 1959, 1980), provides a nonlinear premise for exploring its spiritual dimensions.

While there are many definitions of spirituality, Gillman (1996) proposed the following:

> “Spirituality encompasses hope; faith; self-transcendence; a will or desire to live; the identification of meaning, purpose, and fulfillment in life; the recognition of mortality; a relationship with a ‘higher power’, ‘higher being’, or ‘ultimate’; and the maintenance of interpersonal and intrapersonal relationships” (p. 2-4: 1).

Occupational therapy research often focuses on a narrower definition of spirituality, “the nonphysical and nonmaterial aspects of existence, which contribute insight into the nature and meaning of a person’s life” (American Occupational Therapy Association, 1995; Christiansen, 1997: 169). Howard & Howard (1997) explored the meaning of occupation within the socio-cultural context of theological frameworks and suggested, “the central element of religion is the provision of ultimate meaning” (p. 182). Identifying spirituality as the “center from which all human activity flows” (p. 182), provided a previously unexplored view of occupation as that which, “links us to the divine” (p. 182). These two views of spirituality, one secular and one theological have continued to be addressed as separate, linear influences on occupational meaning. Swarbrick & Burkhardt (2000) proposed that applying “knowledge of the spiritual domain of health (i.e., faith, beliefs, values, attitudes) may help a therapist better evaluate a client’s thoughts and perceptions about life meaning, purpose, and occupational behaviors” (p. 2). Nonlinear dynamics allows modeling of the complex interrelationships between the spiritual domain and the components of human occupation.

**Nonlinear dynamics and spirituality**

While the original meaning of spirit is *breath*, ancient languages often used the metaphor *breath of life* (Capra, 2002). Spirituality refers to the experience of aliveness of spirit-mind-body-world as *unity*, transcending “not only the separation of mind and body, but also the separation of self and world” (Capra, 2002: 68). The recognition of spirit-mind-body-world *wholeness* has been advanced through the work of Capra (1996) who described nonlinear dynamics as spiritual at its deepest essence. The study of occupational experience, honors this inter-connectedness and inter-dependence, affording the ability to move away from the artificial Cartesian separation between the inner and outer world (Tarnas, 1991). As Laszlo (2004) states, “matter and mind are not separate, distinct realities; they are aspects of a deeper reality that has both an external matter-aspect, and an internal mind-aspect” (p. 149). Hence, nonlinear dynamics allows us to move beyond intuition, as we understand the physical body —a dissipative system— as inter-connected with a larger system that includes spirit. The loss or lack of spirituality, called *spiritual latency*, leads to decreased respect and love for self, world, and humanity (Hawkins, 2002). Occupational therapists help to facilitate self-organization and positive change with those who might be experiencing increasing spiritual latency and increasing rigidity due to injury or illness.

![Image not readable or empty](https://journal.emergentpublications.com/wp-content/uploads/2015/11/b17f877d-72d6-f3dc-e8c0-7607d7968ea9.png)

**Fig. 1: Figure 1**

*Spirit-Mind-Body-World*

**Human occupation and the search for meaning**

Occupational therapists view human occupation as a process through which perceptions of new meaning emerge (Lazzarini, 2004). Meaning, emerging after intentionality, is created through experiencing the consequences of timeless actions and choices made (Freeman, 1995; Lazzarini, 2004). Hence, meanings live within us and not within events, objects, or bodily actions (Freeman, 2000b; Nunez & Freeman, 1999). Meaninglessness is distinguished from meaningfulness by “the richness of context and the promise of a continuing emergence through our personal choices of interesting and fruitful complications” (Freeman, 2000a: 13).

Meaningful occupation may be engaged in socially or in solitude. The construction of similar meanings may be partially assimilated through engaging in social bonding opportunities, thus increasing the potential for human relationship formation (Freeman, 2000a). Meanings that are socially assimilated are the basis for all public knowledge – familial, societal, cultural,
Evolution of self through self-organization

Self-organization as creative process

Self-organization is the dynamic ability to self-renew, self-maintain and self-transcend (Capra, 1996). It is the creative process through which the organization of a system arises spontaneously, forming coherent patterns or pattern changes, without being controlled by external agency (Abraham et al., 1990; Freeman, 1990; Kelso, 1999). “We are all a part of this process, created by it, creating in it” (Kauffman, 1995: 304). The study of nonlinear dynamics offers a scientific method for exploring the creative, spiritual, and dynamic nature of self-organization, which facilitates the ability to self-transform and self-transcend. Consequently, demonstrating that the self-organization of occupation is not simply one of input-throughput-output, but one of circular causality through the interrelated processes of intention, meaning, and perception (Freeman, 1995; Lazzarini, 2004). Thus, self-organization is one of the fundamentally creative processes supporting spiritual evolution across phenomenological scales (Laszlo, 2004).

The chaotic process of self-organization and change

Dynamic systems research suggests that brains are intentional and chaotic systems that do not merely “filter” and “process” sensory input (Haken, 1983; Freeman, 2000b; Kelso, 1999), but also actively seek and select sensory and motor stimuli through which the perceptual patterns of awareness are created and replace the activity induced by stimuli (Freeman, 1995; Kelso, 1999; Thelen & Smith, 1994). Nonlinear dynamics offers an enhanced conceptual framework through which the interrelations of intention, meaning, and perception may be illustrated without the need for causal agents (Freeman, 1999, 2000b; Lazzarini, 2004). The process of circular causality, originating in the neural mechanism of intentionality, is the process through which each perception concomitantly is the outcome of the preceding action and is the condition for the following action creating personal knowledge (Freeman, 1999, 2000b). However, the consequence of an action-perception cycle is typically perceived, through subjective awareness, as effect, and is used for the purpose of attempting to predict or control the environment (Freeman, 1999).

Self-organization and new learning

Self-organization occurs during the process of learning new patterns but cannot be hastened or forced. The magnitude of an attractor can bifurcate or change gradually (Abraham, 1992). Bifurcations or phase transitions are points of division or departure inherent in nonlinear dynamic systems and offer potential avenues in the study of human behavior change (Abraham, et al., 1990; Gleick, 1987). Stasis represents a transient state of dynamic stability with reduced flexibility and yet a state of expectancy in a nonlinear system. The edge of chaos is a creative, dynamic state between chaos and stasis, where order and chaos meet. It is full of complexity and is often referred to as a window of opportunity whereby new perspectives self-shape. It is through the self-organized process of circular causality that learning occurs and an entire attractor layout may change so that the learned pattern develops a large basin and becomes a strong attractor (Abraham, et al., 1990; Kelso, 1999). This process increases the likelihood that the learned pattern will be repeated with less energy and thought, producing new behaviors that are associated with learning (Kelso, 1999). It serves as a purposeful system constraint and may facilitate a sense of coherence.

Self-organization and behavior change
It is through bifurcation (or phase transitions) that novel, self-organized behavior patterns emerge (Abraham et al., 1990; Kelso, 1999); requiring a neurological phase or state transition, through the destabilization of macroscopic activity patterns when neural populations reorganize spatiotemporally (Kelso, 1999; Freeman, 2000b). Self-organization is demonstrated when “one pattern of behavior is selected over another” during a critical period (Kelso, 2003: 58). In practice, the shift from being in denial of one’s problems to that of the recognition and the readiness for change represent a phase shift, which may be mapped as a phase space or as trajectory in a fitness landscape (Abraham, et al., 1990; Kaplan & Glass, 1995).

Self-organization and occupational therapy

As occupational therapists begin to recognize that interventions serve to facilitate the circular causality of self-organization, occupation can finally be recognized for supporting the growth and wholeness of the spirit-mind-body-world. Wholeness is revealed by orderly changes in one’s behaviors comprising its maturity and further development of the self through learning, despite its constraints (Freeman, 1999, 2000b). The outcomes of occupational therapy then represent an unfolding process of change evolving primarily from the individual’s inner potential (Hasselkus, 2002; Lazzarini, 2004). This process is recognized in occupational therapy practice when a person is able to functionally engage in meaningful life roles after a stroke or when surrendering and making the sincere commitment to change in the face of addiction. Thus, demonstrating the ability to transcend beyond the limitations of illness or injury and of the inherent resilience of self-organized human systems.

New meaning through intention-meaning-perception

From Freeman’s nonlinear approach to understanding the neurodynamics of intention-meaning-perception, Lazzarini (2004) developed a model for the exploration of occupation as the antecedent for new pattern formations of brain activity. At the microscopic level, neurons act individually, in the spinal cord and brain, providing pulse frequencies and wave amplitudes (Lazzarini, 2004; Freeman, 2000b; Linas & Ribary, 1993). It is only at the microscopic level that linear causality can be proposed within the circular process of intentionality of brain organization.

The spiritual essence of intentionality

Intentionality refers to the self-organized brain process through which goal-directed actions are created (Freeman, 1995, 2000b; Lazzarini, 2004). It is from microscopic neural brain activity that intentionality originates and it is expressed by action potentials (Freeman, 1995, 2000b; Lazzarini, 2004). The human brain creates intentionality through the self-organized circular process of assimilation (Aquinas, 1948, 1988; Freeman, 1995; Piaget, 1930). Assimilation is the process by which individuals shape or actualize their historical selves by experiencing the sensory consequences of their continuous exchanges with the world (Freeman, 1995, 2000b; Lazzarini, 2004; Skarda & Freeman, 1990). The brain responds to hypothesis testing by destabilizing the primary sensory cortices, thus, influencing the formation of neural activity patterns, which “provide the elements of which meanings are made” (Freeman, 2000b: 9). Intentionality occurs before awareness or consciousness and to understand intentionality, meaning must be considered and described through thoughts and words (Freeman, 1999, 2000b). We communicate in order to enhance our own meanings, requiring consciousness. However, when the fundamental understanding of intentionality reflects an awareness that it precedes consciousness, the subject-object dichotomy disappears (Freeman, 1999).

There are three main properties of intentionality: intent, unity and wholeness (Freeman, 1995, 2000b; Lazzarini, 2004). Intent, also referred to as the initiation or construction of goal directedness, is action directed toward an end that may or may not become realized (Freeman, 1999). Unity is the integrated and coordinated cognitive processes of the spirit-mind-body-world that arises as the input from all sensory modalities combines and forms Gestalts as one engages in the world (Freeman, 1999). Unity is demonstrated as a state of meaning, integrated in brief time intervals, as it forms segments of an itinerant trajectory through an individual’s state space (Freeman, 1999). Wholeness refers to this state space and includes the range of possible actions arising at any moment, while constrained by personal history and present state of the individual (Freeman, 1999). Wholeness is demonstrated by the continual evolution of the self and is apparent in the changes that occur as one strives toward reaching one’s potential and in seeking fulfillment across the lifespan (Freeman, 1999). Perceptions of unity or wholeness of the self contributes to further action through intentionality while, the converse process, self-awareness, is ego-based and fragmented (Freeman, 1999).

On a universal scale, intentionality emerges from the unconscious creative process in which the human spirit reaches out to interact with the world. In this view, unity corresponds with coherence and refers to the harmonizing of the elements or parts of a dynamic system (Laszlo, 2004). Wholeness corresponds with transpersonal consciousness and is not ego-based, thus, leading toward “an era of peace, fairness, and sustainability…for all humanity” (Laszlo, 2004: 153). Therefore, spirit is the universal power source (Hawkins,
Emergence: Complexity and Organization

The emergence of meaning

The process by which meanings grow and operate is through intentionality and then through the circular causality of habit formation in space and over time, through intention-meaning-perception. Meaning arises through mesoscopic activity, which bridges the microscopic and the macroscopic. The mesoscopic level is where the collective activities of neurons create neuron populations, thus, constraining the individual actions of neurons, ultimately creating a collective and interactive whole (Freeman, 1995; Ingber, 1992; Lazzarini, 2004). It is the collective mesoscopic spatiotemporal patterns of neural activity through wave packets (Freeman, 2002; Lazzarini, 2004) that create the intentional patterns of meaning and behavior that precede perception (Lazzarini, 2004). At this level, circular causality is required and the emergence of the unique, contextual and experiential meanings supporting perception occurs. Meaning emerges after intent, choices made, or goal directed action; as they are created through timeless actions and unique forms within the brain and body (Freeman, 2000b; Lazzarini, 2004).

Perceptual awareness

It is at the macroscopic level that perceptual awareness becomes possible through the self-organization of circular causality. Perception is the organization of sensations, goal directed behaviors, and the construction of meanings, which begins with self-organized neural activity (Freeman, 1983, 1998, 2000b; Gibson, 1979). Perception is an interactive process of destabilization and re-stabilization through the dynamic process of self-organization (Skarda & Freeman, 1990; Freeman, 2000b). This is a continuous and largely unconscious process, trialed and manifested intermittently through awareness, arising at the macroscopic level (Freeman, 1999). The structuring of perception occurs through repeated cycles of perception and action with perception occurring before the receiving of the sensory input of actions taken (Freeman, 1999, 2000b). It is the imagination and previous knowing that allows one to generalize and abstract to create the internal mechanisms by which we act and understand (Freeman, 2000b).

Circular causality and occupation

The circular causality of intention-meaning-perception demonstrates the process through which human occupation leads to new perceptions and the ability to self-actualize and self-transcend (Lazzarini, 2004). According to Lazzarini (2004), “from microscopic to macroscopic, the neural organization subserving intention-meaning-perception through its nonlinear dynamics can account for the flexibility and creativity where the organization of voluntary actions occur” (p. 7). In this view, through the process of circular causality, occupation is the conflate of one’s past experiences, the states of arousal and attention, the expectancies of responding to stimuli, the intentionality of the individual, and their goals and meanings (Freeman, 1999; Lazzarini, 2004). Through circular causality the macroscopic (top-down) and the microscopic (bottom-up) processes over time create observable changes in the behavioral (macroscopic) level (Freeman, 1999; Lazzarini, 2004) and sustain the macroscopic state by facilitating the interrelationships of the hierarchical levels.

Table 1

<table>
<thead>
<tr>
<th>Scale</th>
<th>Intent</th>
<th>Unity</th>
<th>Wholeness</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neurodynamics</td>
<td>Intentionality</td>
<td>Meaning</td>
<td>Perception</td>
</tr>
<tr>
<td>Societies</td>
<td>Relational Formation</td>
<td>Societal Coherence</td>
<td>Societal Peacefulness &amp;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Sustainability</td>
</tr>
<tr>
<td>Universal</td>
<td>Transpersonal relational</td>
<td>Transpersonal Coherence</td>
<td>Transpersonal Consciousness</td>
</tr>
</tbody>
</table>

2002; Laszlo, 2004) creating, through self-organization, the processes of intent, unity and wholeness across all scales.
Self-maintenance through habits

In the *Philosophy of Occupational Therapy*, Adolph Meyer (1922; 1977) identified the professional role of providing “opportunities to work, opportunities to do and to plan and create, and to learn to use material” (p. 641). Through these opportunities, habits become self-organized as dynamic patterns of experience that form over time and are referred to in nonlinear dynamics as chaotic attractors, each with its own basin of attraction. The range of displacement from which recovery can occur defines the basin of attraction (Freeman, 1999). Habits are deeply rooted in the unconscious patterns of brain activity. While a person may have (healthful) spiritual habits, other habits may act as negative feedback loops producing distortions and a fragmented or disconnected perception of reality (Briggs & Peat, 1999).

*Spiritual habits* may be thought of as a metaphor for those habits that are “ways of interpreting or grasping meaning” (Brockelman, 2002: 23S) about oneself and one’s relationships to time, space, and other people. Meaningful spiritual habits emerge through meaningful, spiritual occupations. Broad spiritual habits (BSH) can be understood as habitual attractors that afford a sense of unity, life attitude, and way of “seeing life in terms of social roles or classes” (Brockelman, 2002: 23S). Deep spiritual habits (DSH) are deep spiritual attractors that afford attitudes about life that structure our identity beyond occupation and vocation as one continually strives for fulfillment and wholeness (Brockelman, 2002). Both BSH and DSH can be thought of as contributors to our dynamic perception of identity and influence intentionality through intention-meaning-perception.

Self-transcendence through spiritual occupation

Transcending the sense of self

Freeman’s metaphor of neurodynamics as “a bridge between brains and societies” (1995: 45), expresses his position that within the brain resides the intentional structure affording the ability to transcend the solipsistic gulf (1995: 123). Solipsism refers to the theory that the self is only able to know its own constructs (Freeman, 1995) leading to the subjective experience of a separate internal and external environment. Transcendence of this solipsistic gulf produces a sense of interconnectedness between the inner and outer world and the self with the greater whole, making bonding possible. It is an innate human characteristic to surpass the solipsistic gulf, reaching out through the process of intentionality, to interact with the world (Freeman, 1995). The “striving toward higher levels is all part of an evolutionary trend that leads in a forward direction” (p. 43) toward self-organization and self-transcendence. Thus, neurodynamics reveals that the evolution of the self is through the complex processes of introspective and social self-reflection (Tschacher & Rossler, 1995).

Self-transcendence through the formation of new spiritual habits

*Meaning-making through broad spiritual occupation* BSH “are repetitive patterns of action” (Brockelman, 2002: 24S) and the experiential process based upon conscious and unconscious attachments to goals formed, given each individual’s past and present meaningful life experiences. Broad spiritual occupations (BSO) refer to the seeking of new (life supporting) knowledge, habit formation and greater wholeness (self-actualization). BSO create “meaningful states of being that we seek to become and that arrange the actions and events of our lives into just the particular story that is ‘us’” (Brockelman: 23S). Micro-meso-macro modeling (Freeman, 2002; Lazzarini, 2004) may be used to study the self-organization of our dynamic sense of identity through changes in perceptions of broad spiritual meaning in areas such as our competence, ability, and self-esteem. *Broad spirituality* is always associated with meaningful activity. According to Foster, spirituality occurs not separate from daily life but is “best exercised in the midst of” our daily activity (1978: 1). Appreciating the beauty and simplicity of everyday occupation can
contribute to meeting one’s spiritual needs. Occupational therapy contends that what people do with their time, their occupation, is crucially important for well-being (Howard & Howard, 1997) and contributes to perceptions of life meaning (Meyer, 1922/1977; Reilly, 1962) as solipsistic knowledge is created, demonstrated, and validated through intentionality (Freeman, 1995).

Although the complexity of spirituality cannot be reduced to neuromodulators, the meaningfulness of BSO is demonstrated through intention-meaning-perception as emotions occur from the release of neuromodulators, interact through system-wide dynamics, and are compared with prior emotions at the unconscious level. Neurodynamics suggests that learning is a directed change in “an intentional structure that accompanies neuroactivity” (Freeman, 1995: 117) and this learning leads to behaviors associated with a new sense of self.

Neuromodulators support the processes of unlearning, learning and emotion, and are “responsible for maintaining the global state of the forebrain” (Freeman, 1995: 118). At the microscopic level of the neuron and synapse, the release of neuromodulators (microscopic) produces a bifurcation, preparing for the change in an individual’s meaning (mesoscopic) and the awareness of self and society (macroscopic). According to Freeman (1995), “the global actions of the neuromodulators give good reason to propose that the neuropol or neural populations of each hemisphere is the material basis of the unity of its intentional structure, so that our EEG recordings may manifest the global actualization of that structure in transient thoughts” (p. 120).

Table 2

<table>
<thead>
<tr>
<th>The Circular Causality of Broad Spiritual Occupation (BSO): Unity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Macroscopic</strong></td>
</tr>
<tr>
<td><strong>Mesoscopic</strong></td>
</tr>
<tr>
<td><strong>Microscopic</strong></td>
</tr>
</tbody>
</table>

Meaningful occupation: examples of BSO. BSO may be understood through neurodynamics as a solipsistic brain seeking new knowledge and greater wholeness (self-actualization). An artist may unconsciously seek this through a favored paint medium, a musician through composition of a song, or a homemaker while following a grandmother’s recipe. The concept of person-centered occupational therapy practice promotes the use of BSO in treatment.

Meaning-making through deep spiritual occupation DSH are those “deeply ingrained habitual attitudes toward life” that are life supporting, complex and resistant to change (Brockelman, 2002: 24S). System adaptation of DSH requires unlearning old and learning new habitual attitudes. This “entails a shift in a person’s fundamental spiritual attitude toward life,” self-actualization, increasing flexibility, and wholeness (Brockelman: 24S). Deep spiritual occupations (DSO) refer to the deepening of life supporting meanings, producing a wider perception of reality, robust feelings of oneness with the universe, and a greater sense of unity and wholeness. DSO facilitates a sense of self-transcendence that often includes a feeling of relationship with a higher power. New perceptions of deep spiritual meaning, often result in dramatic system changes through the “dissolution of an intentional structure” (Freeman, 1995: 121) and the creation of an entirely new “internal map” (p. 123). The complexity and dynamics of identity change, through deep spiritual occupational experiences, might again be clarified through the use of the micro-meso-macro model as changes in deep spiritual meaning produce a wider perception of reality, feelings of oneness with the universe, and a greater sense of wholeness.

As with BSO, neuromodulators are released (microscopic) during synapses in the brainstem during intentionality (Freeman, 1995) and DSO may be involved in a dramatic shift in attitude toward life (macroscopic). The intensity of DSO may influence the release of oxytocin, which has been shown to dissolve the intentional structures involved in unlearning (p. 121). Oxytocin is believed to be released during times of individual transcendence, as social bonding requires that we dissolve old habitual attitudes and prepare ourselves to start anew. Falling in love, becoming a parent, and experiencing religious or political conversion are believed to be associated with a release of oxytocin and to contribute to the often “profound changes that take place in behavior and belief structures” (p. 122) observed at these times. Unlearning may lead to new feelings of hope and gratitude followed by a “state of malleability” to facilitate social behaviors (p. 127). The emotions and behaviors related to a sense of trust are observed as an individual transcends the solipsistic barrier (Freeman, 1997, 2000b).

Mediation and prayer: examples of a DSO. Meditation has been studied in its many forms throughout its history and four components were found consistently in both Eastern and Western practices (Benson, 2000; Capra, 2000). Meditation is effectively performed within a quiet environment, in a comfortable position, using a mental cue, and with an open attitude (Benson, 2000). To learn and understand the benefits of meditation, engaging in the discipline of being still and quieting the mind is the first step toward this deeply personal and unique experience. In meditation, one breathes deeply, slowly, and regularly, for...
the circulation of Prana (life source) to reach all levels of the body and mind (Chopra, 1993). A spiritual convergence occurs with the channeling of the experience of that moment within the inner self. Benson (2000) describes meditation as the relaxation response to achieve a desired, altered state of consciousness. The relaxation response may enhance the belief in one’s ability to influence self-healing (self-organization). Occupational therapists may use meditation with consumers to improve health outcomes (Benson, 2000, 2001; Esch, et al., 2002a, 2002b).

Meditation, prayer, and spiritual community gatherings may be understood through neurodynamics as a solipsistic brain seeking union with something larger than other minds or societies; a higher power or wholeness with the universe (Freeman, 2000a, 2000b, 1995). Freeman identifies many DSO that have been and continue to be associated with spiritual practices as facilitators of the unlearning process, or dissolution of the intentional structure, and preparation for a dramatic transition in one’s introspective and social awareness. These DSO include: singing and moving to meaningful music, bonding with a group, sensory overload or deprivation, and “collective mental states of extreme emotional intensity” (Freeman, 1995: 130). Interestingly, Freeman points out that some of the same neurotransmitters released during spiritual experience, are released in response to exogenous drugs and alcohol, contributing to emergent behaviors leading to rigidity and isolation, rather than the wholeness that is associated with spirituality. Broad and deep spiritual occupation contributes to one’s dynamic perception of identity and influence intentionality through intention, meaning and perception (IMP).

### Table 3

| Macroscopic | Occurs when behaviors emerge that are related to new awareness of self & society as a part of something greater, such as, a higher power or oneness with the universe. |
| Mesoscopic | New meanings about self occur when action produces unconscious meanings about a new and transcendent self, when emotions are compared to previous emotions that had contributed to the meaning of the transcendent sense of self. |
| Microscopic | Occurs when neuromodulators are released within synapses in the brainstem, dissolving pre-existing learned attractors, preparing the systems for new learning through IMP. |

### Table 4 Broad and Deep Spiritual Occupation

<table>
<thead>
<tr>
<th>Broad Spiritual Occupation</th>
<th>Deep Spiritual Occupation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contributes to self-transformation</td>
<td>Contributes to self-transcendence</td>
</tr>
<tr>
<td>Structures one’s sense of self</td>
<td>Structures one’s identity</td>
</tr>
<tr>
<td>May be easily perturbed</td>
<td>Not easily perturbed</td>
</tr>
<tr>
<td>Affords a sense of identification with a social class or role: unity</td>
<td>Affords a sense of unity and wholeness within the universe</td>
</tr>
</tbody>
</table>

### A case in point: Maya

The self is innately creative, intentional, and continuously shaping through the dynamic process of meaning-making. However, it may take a life-interfering or life-threatening situation to produce a desire to place oneself in the hands of a greater power to engage in and recognize the meaning and value of spiritual occupations. Consequently, when at the end of one’s resources, people may seek a deep spiritual event to take place. Personal growth and change begins with surrendering to a source greater than oneself and the acceptance of the need for spiritual relationship. This is evident in the case of Maya.

Maya is a young, single mother with symptoms of mania who had a lapse of prescribed medication use for one month. She reported feeling “unsafe”, abusing alcohol, overspending, and an inability to care for her child. She was tearful as she explained that her continued “relapses” of mania and alcohol had compromised her relationship with her four-year-old daughter. Prior to this acute psychiatric admission, she had three previous admissions within eight months, refused outpatient services, demonstrated spiritual latency, and had previously discontinued medications following each discharge, related to denial of problems with mood or alcohol.

The case of Maya demonstrates both the rigidity of a dynamic human system with patterns (habits) in need of change and the potential for self-organization in space and time through change in attractor layout (new learning). It was not until this admission that from Maya’s cumulative changes of intention-meaning-perception over time emerged a new awareness of the need to
change some of her habits and tendencies. Health is the patterning of life supporting interactions characterized by flexibility, variability, and difference, allowing the ability to self-transform (Stacey, 2003). Engaging in broad and deep spiritual occupation facilitated the bifurcation processes necessary for the dissolution or unlearning process of unhealthy attractors and prepared the self for a dramatic transformation. By recognizing the opportunity for transformation, Maya and her healthcare providers were able to facilitate the self-organization of new pattern formation. She was now able to recognize her habitual rigidity and need for change evident in her dynamic system patterns (cycling of mania and depression and alcohol abuse) and tendencies (overspending, stopping medications, avoiding spiritual occupations and relationships).

Spiritual occupation is a vehicle or an opportunity for self-organization and self-transcendence to occur. Peloquin challenged occupational therapists “to look to the point beyond our doing and discern a spirit expressing itself” (1997: 168). By engaging in self-initiated spiritual occupation one is able to experience the universal flow of life while frustration and suffering occur when people resist this flow of life (Capra, 1999). Initially, Maya believed she would need to chase and cling to each moment of sobriety to experience serenity. She was failing to understand that, by allowing herself to experience and reflect upon the unity and wholeness of spiritual occupation, she would realize the transcendence of old self-perceptions and habits over time and

![Image not readable or empty](https://journal.emergentpublications.com/wp-content/uploads/2015/11/da49c66f-5872-8405-905c-0793f88658299.png)

**Fig. 4: Figure 4**

*Maya’s Self-transcendence through Spiritual Occupation*

freely flow into new and more adaptive patterns. Through engaging in mindfulness activities, such as meditation and art expression, she began to learn how to allow rather than to force or control her spiritual experiences. Over time, she was able to recognize the value and importance of spiritual occupations and how to incorporate them into her daily lifestyle.

While on the unit, Maya began learning about the practices of Alcoholics Anonymous (AA), reading AA literature, and attending AA meetings provided on the acute care unit. At these meetings Maya recognized AA as both a community of people and a program that is ultimately spiritual in nature (Hawkins, 2002). As human beings are ever changing and sensitive to initial conditions, there was no initial certainty that any of these activities would be attractive to Maya or would lead to self-organization. A nonequilibrium system indicates the end of all certainty and predictability (Prigogine, 1996), thus, revealing the importance of Maya’s central involvement in experiencing and deciding what may potentially help her self-organize and transcend. Maya’s motivation was strengthened during the turbulent processes of change, as she was seen to continuously draw strength from the meaningfulness of her role as a mother.

Maya’s story alludes to the importance of evaluating the flexibility of the system, which is assessed through perturbation. In nonequilibrium systems, the closer a system is to stasis the more rigid it becomes. Approaching stasis leads to feelings of disconnectedness, disunity, and disrupted deeply embedded habits. Maya, who is able to function without the assistance of caregivers when feeling well, becomes dependent and highly inflexible when manic, depressed and using alcohol. She reported recently losing her job and requiring her mother’s assistance to perform her self, child, and home care responsibilities. This led to a critical point, facilitating the wild chaotic fluctuations necessary to bring Maya’s occupational habits to bifurcation, where new patterns were formed, and to a phase shift. Critical periods provide therapeutic opportunities to further facilitate the awareness of rigid, self-destructive patterns and for learning ways to increase flexibility through spiritual occupation.

Maya has formed new meanings and new spiritual attractors affording a sense of unity and wholeness through broad and deep spiritual occupation. Being well and staying sober are significantly meaningful to Maya due largely to her desire to maintain custody and a close relationship with her daughter. Engagement in daily spiritual occupation has facilitated her ability to form new and healthful spiritual habits, which strengthened Maya’s new attractor layout. Increased degrees of freedom were established through active participation in meaningful spiritual occupation, thereby allowing her reconnection to the flow of life. The development of a support network through alcoholics anonymous (AA), creating a new relationship with an AA sponsor and engaging in daily mindfulness practices were some of Maya’s initial spiritual occupations after discharge.

**Summary**

The philosophy of occupational therapy was first built on intuitive awareness that self-organization appeared to occur in conjunction with self-initiated, meaningful occupation (Meyer, 1922; 1977). Neuro-occupation is the bringing together of neuroscience and occupation (Lohman & Royeen, 2002; Padilla & Payton, 1997; Royeen, 2002) with system complexity recognized through applications of nonlinear dynamics (Lazzarini, 2004). The modeling of neuro-occupation through intention-meaning-perception (Lazzarini, 2004) affords the ability to further explore the spiritual dimension in meaning-making. Occupational therapists must recognize the importance of the emerging meta-paradigm that offers the opportunity for scientific validation of occupational therapy as a profession and of occupational therapists as facilitators of change (Lazzarini, 2004),
while supporting the fundamental inter-connectedness and inter-dependence of the spirit-mind-body-world upon which the profession initially emerged.

The study of meaningful human occupation and its importance has its roots in occupational therapy, although the spiritual dimension and its healing influence have seldom been mentioned in relation to meaning-making. The process of assimilation, first described by Thomas Aquinas (1948) in the 13th Century, has reemerged in the study of occupation as a dynamic meaning-making process (means and ends) that begins with intentionality, stretching forth through exchanges embedded in the world. Through nonlinear dynamics, occupational therapists are developing an appreciation for the importance of intentionality as an innate process that leads to meaning and perception, through the unity and wholeness of occupation.

Spirituality, as experienced through broad and deep spiritual occupations may be recognized as a powerful therapeutic force toward human self-transcendence, recovery, and self-actualization. Awareness of both the reduced flexibility and the state of expectancy that coexist within the lives of those, such as Maya, validates the use of meaningful spiritual occupation to facilitate the self-organization of new habit formation and thus, positive life change. Spiritual occupation, the way we choose to create life supportive meanings and purpose in our lives, provides us with new focus as we further study occupation across the life span. Through the application of nonlinear dynamics to occupational therapy theory and practice, we have a strong opportunity to validate our profession and clarify our practice domain by addressing the full complexity of occupation as the bridge that connects spirit, mind, body, and world.

References

11


