

Medicinal Drumming: An Ancient and Modern Day Healing Approach

Sal Núñez

ABSTRACT

This article reviews the medicinal drumming praxis, an ancient and modern day ceremonial approach to psychological and spiritual well-being. A brief overview of similar, but culturally diverse healing modalities is presented along with a background on the evolution of certain Afro-Caribbean rhythms that are centerpiece to the drumming ceremony, and are used to activate and channel healing energy within a group setting. Distinctions between different drumming styles are presented and an explanation regarding the uniqueness of ceremonial drumming is offered. The conceptualization of the medicinal drumming praxis is operationalized into stages that sequentially unfold over the course of the ceremony. A discussion about the manner in which; rhythms, plant medicine, song, storytelling, colors, symbols and elements such as water, air, fire and earth, are used to produce an effect is presented. The effects generated by the ceremonial process and the tools used during a drumming ceremony are addressed. The process by which the facilitator (guide) ushers the group through the ceremony is explained and the manner in which the energetic current of the group is activated and molded during the ceremony is described. A discussion on generating and encoding intention into sound vibrations is provided. The capacity to stimulate group cohesion, unconditional positive regard, social connectivity, and well-being through ceremony is argued. The ability to elevate consciousness through drumming ceremony is explored. A discussion, on the use of ceremony as a sacred space that generates a pathway whereby the projection of constructive intentionality and communion with higher consciousness occurs, is presented. A previous evaluation of the model is offered along with a summary of a current training and implementation project funded by the San Francisco Department of Public Health is described.

Key Words: ceremony, drumming, healing, consciousness, spirituality

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Introduction

The relativity between ceremonial/medicinal drumming, healing, and altered states of consciousness has been established by indigenous communities and practiced across

cultures for millennia (Bloom, 2005). Drum rhythms evolve from the attunement to time, space, self, environment, community, cosmology, and Spirit. Throughout indigenous communities rhythms are used for channeling energy, as a catalyst in a rite of passage, to support a community event, or as a medicinal tool and ceremonial centerpiece. Ceremonial practices are multifaceted and based in the epistemology of a People, however, there are cross cultural commonalities (Bloom, 2005). Ceremonies that involve drumming as a centerpiece; use drumming for its capacity to alter consciousness and for the energy transmitted by its vibrational frequencies.

Corresponding author: Sal Núñez, Ph.D.

Address: City College of San Francisco, Health Education Department, 50 Phelan Avenue, MU353, San Francisco, CA 94112

Phone: + (415) 452-7387

e-mail ✉ snunez@ccsf.edu

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Vibrations, frequency and energy are essential elements of sound and music. At its basis, music is a composite of rhythm, energy, frequency and vibrations; as is the Universe itself. Rhythms are cycles of time, but occur at a faster frequency than for instance the circadian rhythm or earth's yearly cycle around the sun. Rhythm consists of the beat which is the steady repeating pulse, and tempo, its speed. Musical pitch and sound frequencies exist on a vibrational spectrum described in Hertz (cycles per second). Frequencies audible to the human ear range between 20Hz and 20,000 Hz though there are infra sound (below) and ultra sound (above), which stretch beyond the audible human range (Hoope, 2001).

When appropriately manipulated to match an object's field of resonance frequencies may be used to produce specific outcomes. These phenomena appear abundantly in nature and it may be said that nature is comprised by these phenomena.

One example of the effects, of vibrational frequency manipulation, is observed when bees change the pitch in sound produced by their wings in order to stimulate the release of pollen from a flower by causing its anthers to vibrate (Attenborough, 1995). Another example of using sound to cause an effect such as shattering a wine glass is observed when focusing, at the wine glass, the sound that matches its resonating frequency. In order to cause the effect, the sound must be sufficient in length and force (MIT, 2009). These are basic examples of how vibrational frequencies generate movement and force which are both measurable. The force produced by the vibrational frequencies of sound, with ease, can be experienced in the human body when standing next to an audio speaker emitting music, particularly bass tones. Besides producing somatic sensations, vibrational frequencies are encoded or exist in direct correlation with sacred geometry, as evidenced by the geometrical patterns consistently produced by specific frequencies. Thus, exposure to sound is more than mere contact with its vibrational frequency; at a deeper level it is a connection with a universal consciousness manifested in geometry.

Influential Factors

It is popular knowledge, and scientifically established, that the most abundant compound of

the human body is water (Mayo Clinic, 2014; USGS, 2015). Because water is a conduit or transmitter of sound, the human body is therefore inherently and organically susceptible to sound vibrations. For example, vibroacoustic and vibrotactile manipulations or therapies are used as deep tissue massage to help reduce stress, anxiety, insomnia and pain (Wigram, 1995; Walters, 1996; Hoope, 2001; Tajadura-Jimenez *et al.*, 2008). Not only is the mass of the human body predisposed to sound vibrations, but also the brain, which hemispheres are easily synchronized through entrainment resulting in hemispheric synchronization (Neher, 1962; Maxfield, 1991; Jovanov and Maxfield, 2011; Tierney and Kraus, 2015).

Hemispheric synchronization is accomplished by a variety of means, for instance, and to mention a few, exposure to binaural beats, sonic driving, photic driving, or repetitive rhythmic patterns such as those produced by drumming (Neher, 1962; Maxfield, 1991; Farmer, 2009; Tierney and Kraus, 2015). Hemispheric synchronization stimulates the release of hormones and neurotransmitters such as dehydroepiandrosterone (DHEA) (Bittman *et al.*, 2000) and serotonin, respectively, which enhance well-being. It also produces cortical coherence, lucid thinking, heightened intuition and awareness, and altered states of consciousness (Jovanov and Maxfield, 2011). Because consciousness manifests as vibrations, patterned rhythms can be used to activate and shift the vibrational field we term consciousness (Neher, 1962; Maxfield, 1991; Morris, 2010; McCraty *et al.*, 2012).

Cultures throughout the world have used different methods to produce shifts in consciousness or to alter states of consciousness. Common methods include hallucinogenic, meditation, fasting, sex, dancing, and music. With music, the use of specific rhythms or sonic driving are common, and are normally generated by a drum, though a rattle or other instruments may be used.

Although a variety of drumming styles are embedded with the fundamental mechanism by which to entrain the brain, certain conditions are vital to produce the ideal effects. These conditions include setting, intention, motivation, and a ceremonial process. Therefore, before delving into the use of drumming as a therapeutic tool, it is important to familiarize the reader with



several styles of drumming, the distinction in styles, and their purpose and intent.

Systems of Group Drumming

Drumming can be categorized as ceremonial/medicinal, therapeutic, recreational, and free style, although other forms exist. Other forms may include but are not limited to celebratory drumming to mark specific events, harvest drumming, and others. Each form, in and of itself may be restorative and promote health. Yet, specific elements differentiate each style and make them suitable for particular purposes, with ceremonial/medicinal drumming intended as a healing and wellness maintenance system.

Free Style Drumming is a gathering where anyone may participate, there is not a facilitator leading or containing the drumming, there is no specific intent established, and no organized process involved. This form of drumming is spontaneous and depending on the setting, environment, personalities in the group, and other variables may be exhilarating and cathartic. This form of drumming may also be chaotic and disorganized. Either way, any psychological or emotive reactions (including trauma) awakened by the repetitive trance inducing rhythms, may be left unattended and to the participant to manage without assistance or support.

Recreational Drumming is a group activity designed to induce joy and for participants to experience fun and cohesion in a collective setting. The facilitator creates musical contour by sculpting the activity into particular segments and orchestrating the group into producing a range of sounds and musical dynamics. As a result, the flow of energy is frequently interrupted as opposed to amplified. In general, this model serves to reduce stress and create a sense of community between participants. Though participants may experience a sense of wellness; recreational drumming does not intentionally engage participants therapeutically or include a psycho-spiritual aspect. At minimum, some training and practice in drumming group facilitation is required in order to establish a supportive, organized, and beneficial space.

Therapeutic Drumming is a model primarily applied by trained music therapists or therapists with musical training and experience. This form of drumming may be applied as a behavioral health treatment approach. Its

purpose is to assist individuals in recovering from or managing a health condition by reducing stress, enhancing coping skills, and targeting symptom alleviation.

The application of this model requires a more thorough understanding of the effects of music on the mind and body, and experience in formulating treatment plans and designing clinical interventions. Many music therapists are not trained in therapeutic drumming, but rather in music therapy. Those who use drumming as a therapeutic tool may adhere to certain standards and protocols; interventions may vary depending on their skills and training. Contingent on their level of clinical training, facilitators may be in a position to therapeutically assist individuals and offer support in the event of a crisis. Yet, this and the other styles delineated above are not specifically intended to alter consciousness, generate a mystical or spiritual experience, or impress upon the participant an amplification of life force energy, even though they may do.

Ceremonial/Medicinal Drumming engenders community through sacred space and participants engage in the process to expand awareness, elevate consciousness, commune with Spirit, and restore balance. The system involves medicinal rhythms, plants, song, story, symbolism, and life generating elements. These circles are officiated by an experienced guide whom is proficient in negotiating group dynamics; is versed in applied sciences and indigenous medicine, and possesses musical aptitude.

Ceremonial/Medicinal drumming is based in spiritual traditions, not to be confused with religious dogma, rather with the experience of achieving subjective insight and a connection with higher consciousness. For millennia, indigenous traditions have utilized ceremonial/medicinal drumming and drumming in ceremony to create altered states of consciousness and communion with cosmic life force. Over the course of time drumming permuted into popular arenas where not only the public forgot its intended purpose, but also the majority of performers remised the spiritual portal drums unlock. However, there are traditions where the drum remains a ceremonial centerpiece, and used by musician healers whom are versed with the healing power of the drum.



Traditions and the Drum

The Yoruba people of Nigeria (and of other West African countries) practice an intricate system of medicine comprised by an array of elements to include phytotherapy and spiritual ceremony. Within this holistic form of medicine there is a process by which the community intentionally calls upon the cosmic energy or divinity of *an orisha* (deity). The process is too elaborate to explain in this article, however, one important component of the ceremony involves the use of specific rhythms, played on sacred drums or other percussive instruments, to summon the *orisha* associated with the rhythm (Aiyejina *et al.*, 2009). Within this context the rhythms (also the songs and dances) are actually prayers to the deity and offered as a way to salute, praise, and call upon their presence. These ceremonies are multifaceted in nature and in broad terms serve to commune with cosmic consciousness; increase life-force energy; generate balance, alignment, inner peace; and enhance satisfaction with life.

Mexica (Azteca) are indigenous people of Aztlan (Mexico). Aztec dance is another form of ceremony and communion with cosmic forces that manifest in nature (Luna, 2011). This ritualized dance is another method of prayer whereby a group of dancers, through intention, concentration and movement work to achieve synchronicity between them and the drum beat. The underlying purpose is to create and channel energy, commune with the deity associated with each dance and rhythm, generate a collective consciousness, increase life-force energy, attune with the cosmos, and integrate mind, body, and spirit.

In India, spiritually based music is associated with the vibrations of the universe. Within this context learning to create sacred sound involves commitment and spiritual discipline. Sacred music is used during ceremonies as well as a mean to attain a higher level of consciousness and to invoke a particular mood, emotion, and mental state (Nachimuthu *et al.*, 2006). This is accomplished by carefully selecting and pairing a specific melody with a particular rhythm. As in other traditions, the use of chants, hymns, and songs are also employed to synergize the action or potential.

The above are but a few examples of countless practices found throughout the globe and human history. It is evident that the ceremonial and medicinal use of drumming,

dance and song are imbedded cross-culturally, each with their unique approach, yet with the same intent of communing with cosmic consciousness, transcending the ordinary realm, and restoring balance through the constructive amplification of life-force energy.

Many styles of modern day dance music continue to adhere or incorporate a portion of what traditional people have practiced for millennia. In modern day there are musical pieces and songs that correlate with particular dance steps. For instance, the tango, waltz, foxtrot, cha-cha-cha, are styles of pairing specific rhythms and music with designated footsteps. The lyrical thematic of these styles also conform to particular norms of time, place, and people. The compositional chord structure and harmonic progression also serve to encode or activate emotional content. Nevertheless, there are significant variables missing from modern day dance music that differentiate it from ceremonial healing practices. These include setting, motivation, a spiritual ceremonial process, and most importantly, intention; which is the capacity to direct mental faculty on to an objective or event. Yet, anyone who has enjoyed dancing to music which they found exciting will likely report, if asked, that at some point they lost themselves in the music and experienced a sense of ecstasy, exhilaration, and rejuvenation. Although such experiences are subjective, there are reliable processes and mechanisms of action that incite the experience.

As mentioned, exposure to rhythmic patterns and melodies, for a sustained amount of time, will stimulate hemispheric synchronization and induce trance; and lyrics and melodies will arouse an emotional response. The aerobic motion of dance and drumming also increase cardiovascular activity and oxygenation of blood. Furthermore, dancing or drumming with a group of individuals generates cohesion and a sense of community and communion with a collective. Yet, this communion with a collective is based on a tangible and physical reality, whereas communion with a cosmic consciousness is an experience beyond the ordinary realm. This non ordinary realm is accessed through a certain procedure, which in this case is the central theme of this article, that is, ceremonial/medicinal drumming. What is medicinal drumming and where does it come from?



Background

During the time in which humans of African Nations were enslaved and traded, masses were transported to the Americas and Caribbean Islands; and traded between Islands (Martinez, 2003). These People brought with them their beliefs, cultures, customs, languages, religion, music, and ways of life. In order to minimize the ability of communication between the Africans, land owners would mix them into ethnically-assorted groups, which prompted a cultural amalgamation and fusion within the African groups. Despite ethnical differences, such as Bantu, Yoruba, Ibo, Mandingo, Dahomey, and others (Martinez, 2003), there were similarities between the groups, including animism and a ceremonial process by which to commune with the spiritual forces that inhabit nature and generate life.

Because initially it was challenging for individuals from diverse linguistic backgrounds to communicate verbally, Africans relied on non-verbal communication, similar musical genres, and the drum as a vehicle of interaction. Thus, rhythms and practices that were culturally unique to an ethnic nation subsequently became blended. By this process the adaptation and evolution of practices and rhythms ensued. Though, occasionally the drums, ceremonies, and celebrations were banned, the Africans in the Caribbean found ways to maintain their cultural traditions. Consequently, through acculturation the Africans began to adapt European and Indigenous culture which further influenced the evolution and transform of their practices and music. As a result, a metamorphosis followed in which some practices and rhythms remained spiritually and ceremonially based while others diverged into popular and folkloric styles of musical expression (Martinez, 2003). These different forms, that is, spiritual, popular, and folkloric styles, are still found throughout the Caribbean, with each Island practicing and generating its own genre of expressions.

One autochthonous form of drumming, music, dance, and song of Puerto Rico is "Bomba." Interestingly enough, the Bambara People of Mali have a dance termed Gomba which takes seven years to learn and is performed as a rite of passage into adulthood (Diallo and Hall, 1989). This side note is a mere observation of the similarities between the words, not to suggest that the word Bomba is a derivative of Gomba.

Yet there is no doubt about the Trans-Atlantic slave trade that resulted in the transportation of Africans to the Caribbean and Americas. Similarly, there is no doubt of the contributions that the Africans made to language, music, healing practice, and more throughout the West Indies.

Bomba

Bomba is not only rhythms, dance, and song, but a cultural heritage and pride of African ancestry in Puerto Rico (Cartagena, 2004). This form of heritage is maintained by a number of musical groups and families in Puerto Rico. The primary exponents of this form of expression in Puerto Rico are the Cepeda and Ayala families.

The purpose for this background is to establish the lineage of a practice and how the evolution of a practice emerged over time, people, and place. It is also important to mention that this article is not about Bomba, rather about medicinal drumming which utilizes certain Bomba rhythms as tools within the ceremonial approach. Furthermore, it is important to state that this writer is of Puerto Rican heritage in order to disclaim misappropriation. For some, and in particular for the traditionalist and purist of stylistic forms, modifying elements of a form or practice is considered diluting tradition. Yet, because tradition is so powerful, today we find elements of Bomba, particularly its rhythms, infused with other styles of music, evidencing the continued legacy of evolution and adaptation (Flores, 2000; Cartagena, 2004).

Regarding medicinal drumming, it is proposed that the utilization of Bomba rhythms marks a return to tradition, as these rhythms were used medicinally during the time of slavery. The gatherings, celebrations, and ceremonies orchestrated by the Africans not only generated community, networking and support, but through drumming, dance and song, served as a forum for individuals to decompress from the emotional toll of slavery. Thus the rhythms are not only associated with folklore, but primarily with the process by which a People sought comfort and relief from profound trauma.

As initially stated, all drumming styles inherently hold the potential to reduce stress and restore balance. However, deliberately pairing certain rhythms with a particular intent, staged within a ceremonial space, generates the setting



to process strong emotions and commune with Spirit or higher cosmic consciousness. Rhythms that possess a lineage are more meaningful than arbitrary ones, because their history generates conviction when used to channel healing energy, and their vibrational frequency serves to foster collective consciousness or collective synchronicity. Such collective experience is powerful because it aligns the collective into one state of mind through purposeful action (Morris, 2010). When producing these experiences within a ritualized process and ceremonial frame the state of synchronicity is extended in correlation with the length of the ceremony, and results in amplification of collective psychic energy. This energy may be used to seed the manifestation of individual and group intention (Nachimuthu *et al.*, 2006). The ritualized and ceremonial process of medicinal drumming frames the sacred holding space in which the rhythms are applied. Within this ceremonial space other tools and technology are used, which include a grounding space or altar, medicinal plants, healing songs, stories, affirmations, and psychoeducation.

Medicinal Drumming Praxis

The medicinal drumming praxis adheres to a standard format and involves the following stages: a) creating and establishing sacred space; b) introduction to the process, tools, and technology; c) movement through the stages of engagement; d) alignment and attunement, e) restoration; and f) closure. When operationalizing the model, each stage is comprised of segments and steps which when approached sequentially generate energetic ebb and flow and engender balance and restoration.

In medicinal drumming, the guide (facilitator) is responsible for the integrity of the praxis and ensuring the appropriate delivery of the method in a manner accountable to the participating community. A more detailed overview of the guide's role is addressed further in the article, but appears intertwined throughout the following description of the praxis.

Creating and Establishing Sacred Space

In collaboration with the community, the guide is responsible for creating and maintaining sacred space, which becomes the ceremonial container. The ceremonial space is comprised of an altar in the center, surrounded by intrinsic circles of

chairs, and drums selectively placed within the circle, all organized to produce visual symmetry. Creating this space requires clear instructions from the guide and focused action from the community, which stimulate behavioral shifts and begins to foster group cohesion.

After creating the space, the participants are invited to sit in the circle, where the guide formally introduces self, and elders, welcomes the community, briefs them on what to expect, and answers questions. The guide then leads the group through a ritualized process that involves: acknowledging the five or seven directions; invoking spiritual energy; smudging the space, people and drums; and establishing safety and trust. Through this preparation, the space becomes conducive for sharing sentiments (*palabra*) and providing validation, demonstrating empathy and respect, and promoting dignity and eliciting hope.

During this stage the guide focuses on settling the group into the space and promoting a collective experience. This may be accomplished by asking the group to focus on a specific stimulus such as a poem, story, or song conveyed by the guide. An important element of this stage is to draw and transform the group's attention into absorbed concentration which is accomplished by introducing other stimuli and gradually slowing the action by which the guide engages the group. For example, the guide will purposefully slow their actions and use circular motions as they smudge the drums and group, or pair medicinal plants with a breathing exercise, or deliberately speak slower and pause longer while addressing the group. This is comparable to inducing a hypnotic state with the intent to achieve quieting of the mind, stillness, and a collective shift into an Alpha state of consciousness.

In order to accomplish the above, the guide must be centered, calm and in a contemplative state (Schenck and Churchill, 2012). Concurrently the guide must be attentive to and responsible for the proper unfolding of the sequential events that serve as foundation to the process. Thus, the systematic navigation through the stage creates an experiential containment for the process to unfold. Included within the procedural steps of this stage, and in addition to the above, are the use of plant medicine, invocations, and affirmations, establishing intent, and acknowledging the presence of all



participants. The primary purpose of these rituals is to produce collective experiences that engage the senses of the participating community, in preparation for the introduction to the process, tools, and technology.

Introduction to the Process, Tools, and Technology

The guide is responsible for introducing the process, tools, and technology to the community circle. The process refers to the procedural aspects of the ceremony and involves sharing information, maneuvering rhythms, songs, and stories, managing plant medicine, and using other tools in a manner congruent with the energetic current of the group. The process also involves seamlessly ushering the group through the different stages of the ceremony in a manner that aligns with the energetic current of the group. The energetic current is comprised of the rational emotive expressions, behavioral manifestations, and spiritual energy awakened by the process. Over the course of the ceremony, the process strives to align the energetic current into a state of attunement, which is a positive shift in consciousness that nurtures the flow of life force energy.

Tools are the objects utilized during the ceremony, and range from, but are not limited to: drums, medicinal plants, altar, symbols, and life generating elements. During the introduction, the guide provides an overview of the tools and their purpose. The intent is to demystify preconceived notions regarding a ceremonial setting, move those new to the praxis into a position of familiarity, and role model respect and consideration of the group's diversity. Through this introduction group participants are put at ease, their feelings considered, and their presence acknowledged.

Each tool possesses a technology that when properly awakened influences and contributes to the medicinal effects of the drumming. The appropriate combination of technology creates a synergistic effect (Sobiecki, 2012) that stimulates the curative energy inherent within each group participant. As the guide crafts synergy and progressively engages the group through the drumming ceremony, the collective energy begins to amplify encodes with intentional resonance. Crafting synergy is a vital component of the praxis as the combination of

rhythms, plant medicine, song, and words journey the group towards balance and revitalization. The appropriate combination of technologies stimulates neurological, cardiovascular, and endocrine activity; emotional decompression, and other health and wellness responses. An overview of the science appears in the "Converging Effects" section below.

Movement through the Stages of Engagement

Each stage of engagement is comprised of segments and steps. Collectively, the steps, segments, and stages form the praxis or methodology. After introducing the process, tools, and technology, the guide ushers the group in to physical contact with the tools. The guide invites group members to retrieve a drum from the center of the circle, where they have been placed during the creation of the ceremonial space. Prior to retrieving the drums, which occurs in an orderly manner and by designated rows in the circle, participants are instructed to not awaken (strike) the drums after returning to their seats. This process promotes mindfulness and assists the group in experiencing the behavioral results of collective intentionality, which is the capacity to direct mental faculty on to an objective or event. With youth, this process assists with the development of impulse control and emotional regulation.

Once all group members are seated, the guide slowly and intentionally journeys the group through the initial contact with the drums. The initial connection with the drums occurs in a manner that builds the confidence in each group member and strengthens group cohesion. During this segment, the guide coaches the group on several rudimentary but essential musical elements such as hand care (e.g. removing rings and not striking the drum too hard), creating basic tones, maintaining consistent tempo (speed), use of volume and intensity, and responding to hand signals. This process leads to a sense of group comfort with the drums, further unity, and preparation for transitioning into the collective drumming rounds or toques. As mentioned in the introduction section, the majority of rhythms used in the medicinal drumming praxis emerge from traditional wisdom, particular from the Afro-Puerto Rican Bomba genre. Each toque is based on a particular rhythm used for specific purposes, e.g. grounding,

releasing trauma, invoking joy, managing grief, etc.

Once the group has become comfortable with the drums, the guide introduces an opening rhythm, usually one designed to further ground the group. Prior to initiating the rhythm on the drum, the guide informs the group of the curative aspects of the rhythm and invites group members to consider its use for health and wellness, to establish an intention that they may affirm during the toque or for whatever purpose is necessary. During this segment, the guide may also address the historical and cosmological context of the rhythm along with pertinent scientifically based information that underscores its healing properties.

To initiate the rhythm, the guide usually begins by having the group clap out the rhythm and then transfers the rhythm onto the drums. However, there are other ways to transmit a patterned rhythm to a large group, for example by singing it or vocalizing percussive sounds, similar to a method introduced by Nigerian educator and musician Babatunde Olatunji (Olatunji, 2005). Normally, rhythms are presented in rudimentary form so that the community may execute them with relative ease and focus on the experience rather than on rhythmic complexity. Similarly, rhythms are initiated in slow tempo to assist the group in accommodating and synchronizing the rhythm. From this point on, rhythms are paired with intention, song, and plant medicine to amplify synergy.

Subsequently the guide introduces additional rhythms in a progression that aligns with and supports the movement of the energetic current of the group. The additional rhythms are chosen to match and attune the evolving collective energy. For example, if the guide perceived that the group has a significant amount of unrestrained energy, while playing the initial rhythm, the guide may follow with a high intensity rhythm to release energy and foster the group's journey towards balance.

Intermittently, and as part of the stages of engagement, the guide provides information as related to the group, invites the participants to share brief comments, and engages the group in songs, chants, or story, each intended to produce a particular effect. For example, after a high intensity rhythm intended to release imbalanced energy, a slow call and response song may be

invoked to calm the sympathetic nervous system. Likewise, a lullaby may be used to soothe any agitation (Ridder *et al.*, 2013; Clare, 2014; Garunkstiene *et al.*, 2014) or arousal experienced by the group after a member's divulgence of trauma or injury.

At junctures where traumatic material is shared, the guide intentionally shifts the engagement of the group through steps to move the traumatic energy. Other useful tools for moving traumatic energy are chanting, group song, or *vocables* (syllables without meaning), and focus on a simple bilateral (left, right, left, right) rhythm to interrupt the effect of anxiety. In addition to the tool, it is critical for the guide to summon the group's intentionality to enhance the effects of the tool.

In terms of vocalization, melodies are based on the harmonic frequencies generated by the collective resonance of the drums. Melodies are crafted to create consonance (pitch progressions that sound pleasant), as opposed to dissonance (cause tension) so to further journey the group into experiencing a sense of harmony and balance. During vocalization, the guide designs melodies in different key signatures, to best match the collective harmonics and further compound the synergy.

Scales and melodies are based on mathematical formulas each with a particular progression of sound intervals, or pitch. There is much debate on whether or not the foundational arrangement of frequencies in a scale conjures a particular effect (Collier and Hubbard, 2001; Straehley and Loebach 2014). For example, major scales invoke a sense of brightness or positive mood whereas minor scale progressions summon imagery or help move sadness. However, this may not be the same for everyone, as culture, association with past experiences, subjective interpretation, and other variable tend to influence the effect of melodies or particular key signatures. Therefore, within the medicinal drumming praxis it is important to keep melodies simple and consonant. Physiologically, signing involves a shift in breathing which normally results in deeper inhalations and fuller exhalations, which increase oxygenated blood and can generate slight shifts in perception due to mild dizziness. Additionally, within the ceremonial setting, and as subjective as it may be, signing and yelling are associated with a cathartic process, which is amplified by intentionality.

Depending on the desired effect, the guide will engage the group in chanting or call and response while drumming, or a cappella, whichever is more in line with the energetic current of the group. Chanting induces trance, while call and response augments attention. As a result, the group journeys into a deeper collective resonance by way of a shared consciousness in which the current of Spirit and life force energy flow freely and in alignment with personal meaning.

Alignment/Attunement

Within the stages of group engagement and particularly during the mid-portion of the drumming ceremony, the process is focused on creating the conditions to revitalize intuition, innate wisdom, self-healing mechanisms, and a connection with Spirit or higher consciousness. Commonly, this is the stage where group members begin to verbalize experiencing a sense of clarity, relaxation, vitality, and hope. It is plausible that a shift in alignment with the declared intentions begins to manifest during this stage of the ceremony. Whatever the mechanism of action may be, it is clear that responses to the drumming, deep breathing, ceremonial tools, communal process, and psychological and spiritual container of the ceremony are occurring. Attunement with self and congruence with others becomes observable as evidenced by a shift in behavioral and physiological responses that constructively spreads through the collective and permeate the ceremonial space creating energetic synergy.

During this process, the guide further attunes to the current of the group and through tempo and musical dynamics reflects the current of energy back to the group, as a feedback loop. As this segment builds towards a peak, the guide pays particular attention to deepening group synchronicity. This is achieved by introducing certain vocables, collective synchronized breathing, vocal discharge (group yell), and clearly accentuated endings to the drumming rounds. The combinations of these elements lead to a cathartic experience and shift towards restoration.

Restoration

During the energetic peak, the group reverberates in rhythmic synchronicity and in

alignment with its extended environment. This state is reported to be experienced as a point of harmony and undifferentiated self, and psychically marks an intersection in which the portal to restoration is maximized. At these stage group members frequently verbalize experiencing clarity, deepened connection, relaxation and energy, and more sensitivity to environmental stimuli. However, there have been sparse anecdotal reports from some individuals whom initially have experienced tension, dizziness or unpleasant sensations during the drumming portion of the ceremony. As a cautionary note, this is disclosed during the beginning of the ceremony at which time the participants are informed that if unpleasant reactions occur they should seek assistance from the identified helpers in the group.

Nevertheless, during this stage of the ceremony, the guide points out behavior indicators that substantiate a shift in collective energy, such as their accomplished synchronicity, ability to sustain tempo and regulate musical dynamics. Group members are also invited to briefly share their state of being. The guide pays attention to positive statements an affirmation shared by the group members, and weaves these into a feedback dialogue to validate the behavioral, physiological, and psychic transformations reported by the group and clinically observed. As with any therapeutic approach, the statements and affirmations are chosen with care to align with the current generated by the group. This process not only mirrors to the group what they have generated, but also helps anchor their experience and achievements into a constructive frame. Once the stage has reached its highest point, experienced as the peak in energy, the guide begins to usher the group towards closure.

Closure

The guide introduces a final rhythm or song and explains its meaning, purpose, and intent. Cognitively, the final rhythm or song is used to bridge and ground the collective back into the here and now. Physiologically, the purpose is to help soothe residual arousal or acute sympathetic activity. Emotionally, the intention is to impress upon consciousness that which one would like to see manifested in the world for self or whatever constructive purpose may be. This final rhythm or song is delivered in a slower tempo and



usually is faded out instead of ending in an accentuated manner. Thereafter the group is led through a brief breathing exercise and encouraged to sense their life force energy and affirm their subjective self. After completing the exercise, the guide instructs the group to deliver all drums to the center of the ceremonial space and return to their seats.

Once this is done, the guide invites the group to consider how they might use and re-access the energy and experiential state achieved during the ceremony. If it appears that it may be helpful to the group, the guide may offer ideas or suggestions on how to reactivate the achieved state. For example, the guide may invite group members to feel their pulse and then to use their pulse as a way to recall the feelings attained in the group. Depending on the nature of the group, the guide may use visualization, contingency or conditioned pairing as methods to extend the experience and effects beyond the ceremony. For example, the guide may introduce a guided visualization and in-vivo process, pairing the aroma of a particular medicinal plant with a positive physiological and emotional state. Later the participants can reactivate the state by exposure to the aroma or by recreating the visualization. Subsequently the guide informs the group that potential reverberating effects of the ceremony may include enhanced sensitivity to color, sound or movement, unordinary or vivid dreams, intuitive clarity, and a sense of deeper connection to self, others, and the environment.

Depending on the size of the group, the guide will invite participants to share a brief closing comment, or state one word that summarizes how they feel, what they may be experiencing, or an intent they want to affirm. This occurs in an organized manner and moves throughout the group in a clockwise fashion, one person at a time and each with an option to pass. Once completed the guide thanks the group for sharing their energy, words, and contributions to the collective, encourages them to consider networking so to extend the community beyond the ceremony and then ushers the group towards the final segment of closure.

Contingent on the cultural composition of the group, the guide will briefly explain the purpose and meaning of the closing procedure and answers any related questions. Then the guide acknowledges elders and invites them to share closing words. The guide then leads the

group through the process of acknowledging the five or seven directions, life source, and spiritual energy present during the ceremony.

The final collective act involves two steps: one is standing in a circle to experience the flow of life force energy generated by the collective current, followed by creating sound to propel the energy into the ether. The first step is accomplished by all individuals vigorously rubbing their own hands together, followed by all individuals placing their left palm facing upward and the right palm facing downward, then placing one hand above and another below the hands of their neighboring persons' at approximately one inch apart. The group is then asked to sense and focus on the energy they have harnessed which flows through the space between their hands. This energy normally is experienced and manifested as heat, light tingles, a magnetic pull, or other sensations. Thereafter the group is asked to, at the count of three, throw their hands up into the air and shout their name or project their intention. This creates a final collective act and marks the closure of the group process. Once this final event is completed, the community is invited to socialize and assist with clearing the space.

Clearing the space, specifically the altar, involves intention and particular consideration to appropriately disposing any elements, such as water, plants, fire, etc. used during the ceremony. This is performed by individuals whom are familiar with such practices or who have been instructed on the proper procedure. The proper disposing of the elements used in the ceremony is privately done and symbolizes the conclusion of the ceremony.

The Role of the Guide

As noted above, the guide is responsible for facilitating the process and maintaining the integrity of the ceremony. In order to achieve this, the guide must prepare psychologically and spiritually before entering the ceremonial space. Preparing to enter the ceremonial space and engaging the group is a personal experience, however it involves clearing and quieting the mind (Schenck and Churchill, 2014), enhancing one's connection with Spirit or higher consciousness, establishing clear intentions, and opening oneself to channeling energy essence. The process by which this occurs, is dependent



on the belief system of the guide, yet as this writer conceives it, at its core lies communion with Spirit and the higher power within, invocation of love and compassion, contemplation, and heightened state of mindfulness.

The role of the guide involves creating the altar, holding the ceremonial container and frame, and strategically moving the energy essence through the group by the appropriate combinations of medicinal rhythms, medicinal plants, songs, stories, affirmations, and invocations. The guide is also responsible for the ongoing assessment of the group dynamic, observations of reactions in participants, and prior to beginning the group, identifying and designating individuals to manage adverse reactions or crises if they arise. The guide is also responsible for introducing scientific based information that underscores the ceremonial healing mechanisms of action when useful and helpful to the process and group participants. This is typically done with multicultural groups whom are less indigenously oriented, as indigenously based individuals need not science to underscore the validity of a spiritual experience and process.

Converging Effects

Spirituality and science converge in the medicinal drumming praxis. Occasionally, spirituality and science intersect and appear to be one-and-the same; yet, they are clearly different. Nevertheless, those whose spirituality or seeking of spirituality leads them to ceremony, need not science as a condition to willfully submit their self to the ceremonial process and experience. For those individuals, faith in the intention of ceremony and belief in its potentiality are primary sources of reliance. In other words, beyond subjectivity, faith and belief function as mechanisms of action (Azar, 2010). This mirrors the intention and belief that individuals must have and place in the psychotherapeutic process, though for some not spiritually related, rather cognitively, or emotionally correlated. Subjective experiences are also influenced and compounded by cultural norms, determination and motivation, to mention a few. Though these factors may be more complex to measure, this does not negate their influence or value. Yet, in terms of physiology, there are concrete mechanisms of action at play during a medicinal drumming

ceremony. This writer proposes that at some level these physiological actions are also present or active during a spiritual experience (Childre and McCraty, 2001).

Physiological mechanisms of action include hemispheric synchronization and shifts in states of consciousness, triggered by drum rhythms, the ceremonial process, and the influence of other ceremonial tools. Shift in brain wave activity are prompted by the repetitive rhythmical patterns which entrainment the brain resulting in hemispheric synchronization (Neher, 1962; Maxfield, 1991; Jovanov and Maxfield, 2011; Tierney and Kraus, 2015). Hemispheric synchronization results in a higher state of cortical coherence and mental clarity. Repetitive patterns also prompt shifts in states of consciousness which over the course of a drumming round will range from Beta to Alpha or Theta state (Neher, 1962; Maxfield, 1991; Tierney and Kraus, 2015). Movement from a Beta to an Alpha state results in a sense of relaxation and in turn more flexibility in cognitive processing. This state is occasionally referred to as being in the zone. A Theta state is accompanied by sensorial experiences and hypnogogic effects which not only include lucid thought, but also access to non-ordinary dimensions of consciousness and spiritual realms (Neher, 1962; Maxfield, 1991; Jovanov and Maxfield, 2011; Tierney and Kraus, 2015). When experienced within a safe environment and frame, these neurological shifts promote health and wellness.

Rhythms are based on intervals of sound and silence. Based on their mathematical formula, drumming rhythms are geometric sound configurations that resonate with the human constitution, brain, and bio-energetic field. When encoded with emotional content and intentionality, whether constructive or destructive, vibrational frequencies become vehicles that propagate the content across the environment and space (Hagelin *et al.*, 1999; Jahn and Dunne, 2005, Morris, 2010; McCraty *et al.*, 2012). These intentionally encoded frequencies transmit their regenerative capacity through vibro-acoustic and vibro-tactile processes. A common example of the effects of these actions is observed when an audience is moved by music, not due to a performer's technical ability, rather by their prowess to arouse emotion. It is conjectured that, beyond the ability to transmit emotion through music, that this process involves



a type of entanglement between those sharing in the experience.

Because the human body is a natural resonator, and drumming and voice generate harmonic frequencies, organs, tissue, bone, and fluids absorb the vibratory energy emitted by the drums and resonate to the expressed activity of the source. Resonating waves also stimulate the inherent curative mechanism that lies within human beings and influence the harmonic capacity of the spine, which when in balance contributes to wellness and health. Rhythmic patterns and frequencies also stimulate the vagus nerve (Kalyani *et al.*, 2011; Brown and Gerbarg, 2012) and hold the potential to entrain heart pulse and systemic coherence i.e., the synchronization of cortical, cardiovascular, and respiratory functioning.

Shifts in respiratory and cardiovascular activity result from the aerobic elements of drumming. These actions increase oxygenated blood that helps nurture the entire physiology with life generating energy. Any activity that increases heart and breathing rates is considered aerobic exercise. Regular exercise strengthens the heart and over the course of time decreased blood pressure. Drumming also increases body temperature, stimulates sweating (which helps secret toxins from the body), and triggers hormonal fluctuations, each with their specific benefits. Hormonal fluctuations include decreases levels of cortisol and increased dehydroepiandrosterone (Bittman *et al.*, 2000). Drumming also induces relaxation and reduction of stress and anxiety (Núñez, 2006). Consonant vocalizations synergize the energy created by drumming and when used in concert with drumming or a cappella will enhance relaxation, stimulate physiological responses, deepen a state of consciousness, and elevate the spirit.

Vocalizations are based on musical scales which are sequences of pitches at set intervals based on a mathematical formula. Each scale contains within its mathematical foundation a unique source of sound energy, which psychophysiological are perceived as consonant, dissonant, or as other emotional experience. Within these patterns lay the potential to entrain the brain and provoke the movement of emotional energy (Diamond 1983, 2002). During the drumming ceremony, simple melodies either in major and minor key signatures are used. In general, major key signatures are used to

promote and enhance positive states while minor key signatures are used to process and release unpleasant emotional states. However, this varies and is contingent on the energetic and emotional current of the group and the intention of a particular rhythm.

The symbols, geometric configuration of the circle, colorful cloths, and elements, all translate meaning to the participants. Symbols transmit an archetypal energy that can yield strength, support the processing of emotions, or used for whatever purpose needed by an individual or group. The key for using symbols rests in the manner by which they are introduced and meaning they possess for individuals. The circles in which individuals sit serve as psychological and spiritual containers that support safety and trust, and physically create a sacred perimeter in which potentialities are manifested. Colors occur on a spectrum each defined by its electromagnetic wavelength or frequency. Different wavelengths or colors, though in part subjective and culturally rooted, influence mood and stimulate physiological reactions. Some colors are best suited to invoke calm and other to raise blood pressure and metabolic functioning (Lewis *et al.*, 2010; Kuhbandner and Pekrun, 2013; Wang *et al.*, 2014). Elements, such as the flickering of fire triggers shifts in brain wave activity (Neher 1962; Glicksohn 1986; Fábíán *et al.*, 2009) and is conducive to trance induction. When elements, such as water, air, fire, and earth are paired appropriately with plant medicine, colors, and rhythms, synergy evolves and facilitates a spiritual experience and connection with higher consciousness.

The aroma of medicinal plants such as rosemary, lavender, tobacco, sage, and others activate the olfactory bulb, which stimulates mood, emotion, and memory. The active ingredients of each plant activate the inherent healing capacity of the body and stimulate change by the action of their biochemical properties. For example, rosemary serves to invigorate the senses as well as to enhance positive mood, and may be a neuroprotective agent (Satoh *et al.*, 2008). Lavender is soothing and helps to shift mood to a relaxed and pleasant state. In addition to the benefits of their fragrance medicinal plants channel life through the altar by means of their color and life generating frequencies emanating from the spirit of the plants. Visually, olfactory and energetically, plants and other elements



bridge the energetic current of the group with Mother Earth and cosmic consciousness. This spiritual connection promotes a subjective experience of oneness with the vastness and manifests as a state of assimilation and bonding with others.

The intimacy generated by the ceremonial process fosters community, networking, new relationships, and renewed affection between the participants (Goudreau *et al.*, 2008; Sideroff and Angel, 2013). The psychological bonding and group cohesion inspire mingling post ceremony where individuals tend to share resources, develop plans to stay connected, and make themselves available to support each other. If behavioral manifestations are indicators of physiological causality it is plausible that not only are the participants responding to a subjective spiritual experience, but also to a potential wave of oxytocin, as evidence by the unconditional positive regard towards others. Obviously this speculation requires research to verify. Interestingly enough, consistent behavioral responses, as mentioned throughout have been observed and reported during and post ceremonies. Over the past 16 years, the anecdotal reports made by group members have been consistent across diverse groups of participants, populations and settings.

Community Defined Evidence Project

In 2008, the University of South Florida, in association with the National Latino Behavioral Health Association and National Network to Eliminate Disparities supported by a grant from SAMHSA and the Annie E. Casey Foundation conducted a national study "...designed to identify and document innovative and best practices used successfully in Latino/Hispanic communities across the country." "The central Community Defined Evidence Project [CDEP] was to distill the essential elements of innovative, culturally-focused practices and develop measurement criteria that may prove useful in evaluating community defined evidence..." (Martinez and Callejas, 2010, p. 3). The medicinal drumming praxis was nominated by the San Francisco Department of Public Health to participate in the study and was one of 16 programs, in the nation, selected and evaluated by the CDEP.

The evaluation revealed that Latinos and Indigenous communities who participated in the medicinal drumming approach expressed that the method was culturally appropriate and integrative of values, beliefs, customs, and worldviews. It also found that the medicinal drumming was effective as a therapeutic approach within the community. According to the CDEP outcome report, "the combination of drumming, ritual and group discussion helps youth confront and cope with experiences of violence and feelings of anger" (p. 49).

Initially, the practice was designed to engage at risk youth in positive community building, cultural affirmation, and age appropriate intervention. The model is rooted in indigenous medicine which integrates ancestral wisdom, plant medicine; sensory-motor, ecology of space, sound, and spirit to facilitate a holistic healing process. It also blends conventional and traditional principles, and has evolved into a theoretical model, comprised of scientific, empirical, and clinical applications. Since its inception, the practice has expanded to include weekly drumming groups for youth, monthly healing circles for violence prevention workers and a quarterly community drumming circle. The drumming practice has also been integrated into community celebrations and used to facilitate trauma recovery debriefing events (Martinez and Callejas, 2010, p. 48).

In response to the findings the San Francisco Department of Public Health endorsed the therapeutic model as an innovative and community defined best practice. Subsequently the San Francisco Department of Public Health, Mental Health Services Act, awarded a three year grant to the Community Mental Health Certificate Program at City College of San Francisco, so that Dr. Sal Núñez would spearhead a training and implementation trial for County and community behavioral health clinics in San Francisco.

Pilot Project

The goal of the project was to train clinical service providers in the medicinal drumming praxis so that they would implement groups at their clinics and behavioral health agencies. In collaboration with the San Francisco Department of Public Health, Dr. Sal Núñez, principal investigator, nominated 6 agencies, who in turn nominated one to two licensed clinicians, interns,



or experienced care managers for the training. Over the course of one year, the training was delivered to 12 individuals. The first semester was dedicated to theory and practice and the second semester to practice and planning for implementation. Year two was dedicated to implementation and data collection. Supervision, consultation, and technical assistance was provided throughout.

Due to community interest and request, a second round of training was offered. During the second round five agencies were nominated, who in turn selected a total of 10 service providers for the training. The training and implementation for the second cohort followed the same sequence as the first. The training was delivered at the LINK Center, as study lab in the Health Education Department of City College of San Francisco. While in training and in collaboration with their respective agencies, trainees identified a population with whom they wanted to implement a group. Groups were designed for fathers, parents who were to reunite with their children, substance use, youth, veterans, a drop-in homeless center, and others.

A standard survey was constructed in collaboration with participating agencies to evaluate the effectiveness of the approach with different populations. The goal is to collect 400 unduplicated surveys from individuals who have had at least 8 to 10 sessions by December 2016. Approximately 250 surveys have been collected to date. After data analysis a report will be submitted to the San Francisco Department of Public Health and findings shared with the participating community agencies. Contingent on data outcome and funding stream, a follow up investigation using clinical biofeedback, gas discharge visualization device, and blood or salivary samples as measurement tools will be proposed.

With regard to research, it warrants stating that indigenous populations whom have and continue to rely on ceremony and drumming as healing venues and tools are usually indifferent to scientific validation. This is not

because science is not meaningful, but due to the faith and belief in ceremony, to the consistent experiential benefits that verify the effectiveness of ceremonial drumming, and validation marked by its mere longitudinal use across cultures across the globe.

Conclusion

According to the consistency in anecdotal reports, clinical observations, community defined evidence evaluation, and thousands of years of ceremonial drumming across cultures it is reasonable to infer that the praxis is effective as a healing methodology. Physiological and neurological actions correlate with sensations that appear to be common during spiritual experiences, but do not in and of them account for a spiritual experience. The unconditional positive regard and cohesion, observed by this writer, in individuals who participate in medicinal drumming groups may be due to cultural norms, social constructs, hormonal fluctuations, a spiritual experience, or a combination of all. Whatever the mechanisms of action are within ceremonial drumming, what remains evident is that the process generates change in body, mind, spirit, and emotions.

Ceremony activates all the senses, stimulates intuition, and in some may cause a transient state of extrasensory perception. The current of energy generated by a group can be encoded with intentionality, through will and concentration. When constructive, such intentionality heightens the vibrational frequencies of the human energetic field and higher consciousness which are entangled with the extended environment including cosmic consciousness. This entanglement serves as the portal by which energy is transmitted and the pathway by which communion with higher consciousness and consciousness of other individuals occurs. Through this process, intentionality seeds reality.

For our children, for our future

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