

Turbulence-Ease in the Rhythmic Flow of Patterning

Marlaine C. Smith, RN, PhD, AHN-BC, HWNC-BC, FAAN

Professor and Helen K. Persson Eminent Scholar
Christine E. Lynn College of Nursing
Florida Atlantic University

Abstract

The purpose of this paper is to explore turbulence-ease in integral human-environment field patterning. This is significant for nursing theory, research and practice given that turbulence-ease is a pervasive experience in the life process. Existing literature on the rhythm of turbulence-ease within unitary science is summarized. For a more robust understanding of turbulence-ease, the concept is explored through personal, empiric and aesthetic patterns of knowing. Insights from these areas inform an enhanced perspective of the rhythm of turbulence-ease within the Science of Unitary Human Beings (SUHB). Possibilities for wellbecoming in the patterning of turbulence-ease are offered as implications for nursing practice.

Introduction

The rhythm of turbulence-ease is familiar to all of us. For example, riding in a plane we experience unpredictable bumps, and when they end, we sense the plane gliding through smooth, calm air. I live in South Florida near the ocean, and we have dangerous riptides, powerful eddies that pull people caught in them away from the shore, rendering them powerless to get back to shore unless they swim parallel to the shore where they can once again experience ease. A visual image of turbulence-ease is evident when we see images of hurricanes spinning in otherwise calm waters and in the jet stream and the Gulf stream where turbulent flows in the atmosphere and ocean exist in the midst of an even flow of air and water. The rhythm of turbulence-ease is even visible in watching the movement of clouds, rivers and plumes of smoke.

Turbulence and ease are natural rhythms of the life process. We experience turbulence-ease throughout our lives in those chaotic periods of dramatic change, during a catastrophic event or a time of uncertainty when we may have a sense of agitation, turmoil, exuberance, or panic, until with time and help, we are able to regain a sense of ease. During some seasons of our life the tempo feels like the easy flow of a gentle river. At other times it can feel like the turbulent surges of white water rapids. We have power to participate in the patterning of turbulence-ease through shifting rhythms from turbulence to ease or from ease to turbulence as we choose to co-create our wellbecoming (Phillips, 2015).

The purpose of this paper is to explore turbulence-ease in integral human-environment field patterning through summarizing existing literature, exploring the concept through personal, empiric and aesthetic patterns of knowing, conceptualizing turbulence-ease within the Science of Unitary Human Beings (SUHB), and offering possibilities for wellbecoming in the patterning of turbulence-ease in the life process. My approach was concept clarification or concept synthesis

using a process of exaptation, or adapting a concept from one area or discipline to another. In this case I was adapting literature from physics, engineering and art to the discipline of nursing.

Existing literature on the rhythm of turbulence-ease within unitary science.

Howard Butcher has provided the most definitive work on turbulence within the SUHB in a chapter published in 1993 in a book edited by Marilyn Parker, *Patterns of Nursing Theories in Practice*, and in an article in *Visions* published in 2002. In the chapter, Butcher (1993) developed the concept of “kaleidoscoping in life’s turbulence”. He defined turbulence as “a dissonant commotion in the human-environmental field process characterized by chaotic and unpredictable change” (p. 187), and related turbulence to complexity theory, chaos theory (Briggs & Peat, 1989; Gleick, 1987 & Peat, 1991) and the theory of dissipative structures (Prigogine & Stengers, 1984). Butcher linked turbulence to unitary science through the principle of helicy, describing turbulence as “a source of creative change inherent in the Universe”. (p. 187). Butcher referred to Seurat’s pointilism as creating the illusion of vibration in the patterning of color and light on the canvas, and described these unique patterns as visions of “innate turbulence” (p. 187). Butcher likened these vibrating and shifting images in Seurat’s paintings to the changing patterns created by turning a kaleidoscope....a continuous, unpredictable change in variation and form, a metaphor that Rogers (1970), herself, used to capture the image of the open flow of energy in the human-environmental field mutual process. Butcher stated, “Humans all experience traumatic, tempestuous, chaotic life events. And as they evolve through the life process, with each period of turbulent storm we weather, they are somehow enriched and grow toward a new level of complexity and understanding”. (p. 187). “Turbulent life events are manifested by cacophonous, dissonant, dysynchronous, chaotic wave frequency patterns” (p. 188). Butcher contrasted turbulence with Csikszentmihalyi’s (1990)

concept of flow defined as “intense harmonious involvement in the human-environmental field mutual process”. (p. 190)...and stated that “flow transforms turbulence into a sense of harmony and order” (p. 190). Butcher’s point is that one can transform turbulence to flow through the process of kaleidoscoping, and he used Csikszentmihalyi’s structure of creating meaning through cultivating purpose, forging resolve, and recovering harmony to show how, through deliberative mutual patterning, a shift from turbulence to flow can occur. In the later paper, Butcher (2002) wrote about living in the heart of helicy, where he identified one way of participating knowingly in unfolding unpredictability as “flowing with turbulence” (p. 1). In this paper he built on similar ideas from the 1993 chapter. Butcher provides us with foundational thinking about turbulence within the Science of Unitary Human Beings. My goal in this paper is to build upon these ideas. I chose to conceptualize the rhythm as turbulence-ease rather than turbulence-flow because flow is a characteristic of mutual process, and turbulence and ease describe the rhythms of flow.

Another inference in the unitary science literature to the rhythm of turbulence-ease comes from Margaret Newman’s (1977, 1990, 2009) theory of Health as Expanding Consciousness. She describes patterning during the life process as continuously fluctuating rhythms. In the HEC praxis method, nurses and clients are in a partnership, engaged in dialogue about the client’s life process, describing meaningful events and relationships over time. From this dialogue the nurse diagrams life pattern manifestations illustrating a trajectory containing periods of turbulence and ease. This life pattern diagram has the potential to assist the client in recognizing her/his evolving pattern, and through this recognition, see possibilities for different choices, manifesting expanding consciousness or health. Newman draws from Prigogine and Stengers’ (1984) theory of dissipative structures; they posit that life patterns that are perceived as more predictable and

calm are disrupted by periods of perceived chaos, turmoil and distress that have creative potential for our evolution through insights and an expanding view of possibilities. Life pattern diagrams can depict “normal, predictable fluctuations” (ease) punctuated by periods of “disorganization, greater unpredictability and uncertainty” (turbulence) followed by the emergence of “new order at a higher level of organization”. (Newman, 1994, p. 37-38)

Patterns of Knowing About Turbulence-Ease

While turbulence is omnipresent, it is not well understood. Tennekes and Lumley (1972) state that “the study of turbulence is clearly an interdisciplinary activity which has a very wide range of applications” (p. 1). In seeking a comprehensive understanding of this rhythm of turbulence-ease in the human health experience, I explored it through three patterns of knowing (Carper, 1978; Chinn & Kramer, 2018): personal, empiric and aesthetic. Each will be elaborated.

Personal Knowing. Carper (1978) defines personal knowing as knowledge acquired through self-understanding and empathy. My interest in this topic came from a personal experience of the pattern of turbulence-ease in my own life. There were several times in my life where I experienced significant turbulence. One period lasted several months in which I had simultaneous crises with my children and parents, financial concerns and stress from my work. I remember feeling like I was careening out of control, not able to find solid ground. I felt like I didn’t know where to begin, where to get my bearings; too much was moving and changing. But I continued with my same patterning, enduring this turbulence. The final blow came when both my wrists were so painful that I couldn’t write or pick up my baby. This got my attention because I could barely take care of my infant and complete all the writing that was required in my faculty position.

During this time the caring presence of a friend, a nurse, and one practicing from a unitary perspective, helped me tremendously. She asked me some critical questions that engaged me in reflecting on my pattern (awareness), that enabled me to make different choices, and to act intentionally and engage in creating change. Through this dialogue I had an insight (pattern recognition), leading to action that manifested in greater ease. You can hear echos of Barrett's (2010, 2020) theory of knowing participation in change and Newman's (1977,1990, 2009) theory of health as expanding consciousness in what I just described. When I shared what was happening to me with my nurse-friend, including the excruciating pain in my wrists, she paused and said to me, "Sounds to me like you can't *handle* all this by yourself any longer". I started to laugh and cry at the same time. I experienced a stunning epiphany...it felt like an energetic explosion. I thought, "How profound that my body was manifesting this pattern through a metaphor. At its root was my persistent need to do things by myself and never ask for help because I needed this 'superwoman' image for my own sense of self-worth". While this was a very difficult time for me, it was transformative, because of the changes that I made in my life. So this turbulence ushered in a change in my life that facilitated by wellbecoming. Another personal knowing came through experiencing changes in the rhythm of turbulence-ease in my life since I began meditating regularly about 13 years ago. I'm quite surprised at how I experience greater ease during turbulent times through a regular practice of meditation. Finally, a number of years ago the place where I work was collectively experiencing significant turbulence from sustained and intense change. Staff described experiences, perceptions and expressions of "spinning, reeling, and being unable to focus" during this time. I too felt it, and in spite of regular meditation, I believe this turbulent patterning manifested as a serious illness. Through these experiences I've come to believe that the rhythm of turbulence-ease is part of the life process,

both sides of the rhythm may necessary for our wellbecoming, and that we can participate in shifting the rhythm of turbulence-ease when this change is necessary for our wellbecoming. I found that within the human field the perception and experience of turbulence is described as spinning, reeling, feeling out of control and disoriented, feeling stuck and unable to move, and compromising the ability to think and act clearly. The human field pattern of ease is experienced as a sense of equanimity, lightness, smoothness, rightness, and comfort. The environmental pattern manifestations of turbulence are perceived as accelerating and intense change, uncertainty, pressure-filled, overly demanding, instability and stressful, while the environmental field pattern manifestations of ease are familiarity, understandability, order, and peacefulness.

Empirical Knowing. There is considerable scientific literature on the nature of flow. This knowledge of flow in the field of physics may be helpful in understanding the nature of flow in the life process. Flow is a characteristic of fluid systems. (liquids, gasses, energy fields). Flows are dynamic and can contain infinite gradations of motion and stillness, or turbulence and ease. In the field of fluid dynamics turbulence is defined as: “departure from a smooth flow” (www.merriam-webster.com). “Turbulence or turbulent flow is fluid motion characterized by chaotic changes in pressure and flow velocity. This is in contrast to laminar flow (or what I’m calling ease-ful flow), which occurs when a fluid flows in parallel layers, with no disruption between those layers. (Falkovich & Sreenivasan, 2006, p. 43).

The probability of turbulence is a function of speed of flow and viscosity and this ratio is called its Reynold’s number. When energy dies out because of the action of molecular viscosity the flow is called laminar and it has a low Reynolds number. This is an ease-ful flow. When flow is measured by a Reynolds’ number higher than 5000, it is considered turbulent flow. Examples of ease and turbulence can be visible in the Gulf stream which is turbulent within the

surrounding ocean currents that exhibit a more laminar flow. In the contrails of a jet, the initial flow may be turbulent, but it becomes more laminar. Scientists view turbulence as a form of complexity where a lot is happening, and everything happening is dependent of everything else, so a reductionistic scientific approach to understanding it is limiting. (Ball, 2006, p. 2).

Turbulent flow has the following characteristics:

- Irregularity – Turbulent flow is chaotic or unpredictable. It defies a deterministic approach to analysis, and therefore, can only be approximated through statistical models.
- Diffusivity – The energy within turbulent flow accelerates the homogenization or mixing of anything within the flow. This causes rapid mixing and increased rates of momentum, heat and mass transfer.
- Rotationality – There are high levels of fluctuating vorticity in turbulence. With the creation of a vortex comes vortex stretching resulting in larger flow structures evolving into smaller structures. The smaller structures continue until the energy transforms to heat. Turbulence is always rotational and three-dimensional.
- Dissipation – Turbulence resolves rapidly unless a persistent source of energy maintains it. If there is no energy applied to the turbulence, the turbulence dissipates.
- Continuum – Turbulence is a continuum phenomenon. Every turbulent flow is different from each other. There are all gradations of turbulence and ease. (Every turbulent flow is unique in its patterning). (Tennekes and Lumley, 1972, pp. 1-3)

Turbulent flow, while it appears random, has coherence, but its order is in continuous flux, continually moving, unpredictable, and changing. As the speed of the flow increases, that is, as change accelerates, swirls and eddies appear. These energy cascades are uncontrollable and non-symmetric. Accelerating change increases the potential for turbulence. The thicker the

fluid the more it resists turbulence; thinner fluids are more subject to turbulent flow. The jet stream and areas in rivers with logs that capture debris and limit flow will create turbulence. But when the flow becomes turbulent, it becomes unpredictable because any small disturbance in one area creates possibilities for disturbance in others. (Ball, 2014)

One of the key breakthroughs to understanding turbulence came from the work of Andrei Kolmogorov, a Soviet mathematical physicist in 1941. Turbulent flow is composed by eddies of different sizes and velocities. Unstable larger eddies spin off smaller eddies until the energy dissipates and calm ensues. He proposed the power law: anytime you halve the size of eddies, the amount of energy contained in all the eddies of that size decreases by some constant factor. This is the coherence that was mentioned earlier; paradoxically turbulence is characterized by coherence and unpredictability. There is an interconnectedness of the eddies of various energies. (Ball, 2014). From the fields of physics and engineering we know that turbulent flow is chaotic and unpredictable, draws things in the environment into it, has a spinning quality, dissipates if energy is not given to it, and is characterized by unique patterning. This understanding of turbulence may be useful for grasping the patterning of turbulence-ease in the life process.

Aesthetic Knowing. We can know about turbulence through art and aesthetics. Earlier I mentioned Butcher's (1993) reference to Seurat's art. There are some who have made the point that we need aesthetic knowing to understand turbulence (Ball, 2014). Werner Heisenberg, the Nobel-Prize winning quantum physicist, studied turbulence for his dissertation at the University of Munich. Very little was known about turbulence as an aspect of fluid dynamics at the time, and while Heisenberg's 59 page theory tried to fully capture its nature, he was unsuccessful. Legend has it that he said, "When I meet God, I am going to ask him two questions, "Why relativity? And why turbulence? I really believe he will have an answer for the first". (Ball,

2014, p. 2). A similar quote was attributed to Horace Lamb, and Nobel Laureate Richard Feynman who described turbulence as “the most important unsolved problem of classical physics” (Vergano, 2006). “Turbulence, a ubiquitous and eminently practical problem in the real world, is frighteningly hard to understand.” (Ball, 2014, p. 2).

So turbulence perhaps is the most difficult concept to understand scientifically, even now. Yakov Sinai, who won the 2014 Abel prize in mathematics for his work on turbulence and chaotic flow, said, “We should see turbulence as one of those concepts like life, love, language and beauty, that overlaps with science, yet is not wholly contained within it. So turbulence-ease must be experienced in other ways such as personally and aesthetically to be grasped” (Ball, 2014, p. 2-3). Many artists have tried to grasp the nature of turbulence through contemplative observation (Ball, p. 9).

Lewis Fry Richardson, an English mathematician, wrote about turbulence in 1922:

Big whirls have little whirls
That feed on their velocity,
And little whirls have lesser whirls
And so on to viscosity.
(Ball, p. 9)

German anthroposophist Theodor Schwenk in the 1950s and 1960s claimed that the “flow of turbulence-ease reflected the wisdom of a teleological, creative nature, and that these forms reflected a cosmic alphabet to bring order to movement” (Ball, 2014, p. 6). He believed that the flow of energy insists on the inherent creativity of turbulence, and he suggested that this was represented in art from the time of the Bronze Age (Ball, 2014, p. 6).

Through art and aesthetic knowing we may apprehend something more of the mystery of turbulence. DaVinci drew sketches of the flow of turbulent waters and (Figure 1) and a well-known 17th century Japanese painter, Shitao, reflected turbulence as well in waves, representing

the dynamic flow of qi, the life force. Japanese painter Hokusai's *Great Wave* (Figure 2) is an image of turbulent flow. Perhaps Van Gogh's *Starry Night*, painted in 1889, is the most striking rendering of turbulence-ease, and one that has captured the attention of scientists. It appears in Figure 3. We see swirling luminous clouds in a dark blue sky with a larger eddy creating smaller ones. This prominent dynamic flow dominates the view of the sleeping village at the bottom of the painting. Van Gogh painted *Starry Night* after he committed himself to an asylum in Saint-Remy-de-Provence following a psychotic episode in which he cut off his ear. Could it be that the turbulent human-environmental field patterning that he was experiencing inspired him to create a painting that captured this turbulence? Could it be that he was depicting the pattern of both turbulence and ease in this painting with the turbulence overwhelming the presence of ease represented in the sleepy village.

There is a fascinating confluence between the art of Van Gogh and the science of turbulence presented in several articles (Ball, 2006; Ball, 2014) and a Ted Talk (St. Clair, 2014). Researchers in Mexico, led by physicist, Jose Luis Aragon, from the National Autonomous University of Mexico in Queretaro, found that Van Gogh's painting of "Starry Night" depicted a pattern of light and dark that "closely follows the deep mathematical structure of turbulent flow". (Ball, 2014, p. 9). Kolmogorov's mathematical formulae on turbulence could be used to describe the "probabilities of differences in brightness as a function of distance between the points in *Starry Night*. Two other works by Van Gogh, *Cypress and the Star* (1890) (Figure 4) and *Wheat Field with Crows* (Figure 5) (1890), his final painting before he shot himself at the age of 37, had similar qualities. However, in other periods of Van Gogh's life, when he was free from the turbulence of mental illness, paintings such as his self-portrait, reflected ease. (Figure 6). The researchers from Mexico took digital images of the three paintings and calculated the

probability that two pixels a certain distance apart would have the same brightness or luminance. The paintings show Kolmogorov scaling in their luminance probability. Van Gogh is the only painter known to depict turbulence that reflects this exact correspondence to Kolmogorov's mathematical formula of turbulence. Van Gogh's paintings of swirling clouds correspond to the mathematical structure of turbulent flow, created before there was any evidence of these mathematical relationships. Aragon stated, "We think that van Gogh had a unique ability to depict turbulence in periods of prolonged psychotic agitation". (Kleeman, 2014, p. 9).

Turbulence-Ease in Human-Environment Field Patterning

After deepening an understanding of the patterning of turbulence-ease from sources of personal, empiric and aesthetic knowing, it is time to explore this patterning from the perspective of the Science of Unitary Human Beings (Rogers, 1979; Rogers, 1992). Turbulence-ease is a rhythmic patterning of flow in the human-environmental energy field continuous mutual process. The postulates of energy field, pattern, openness and pan-dimensionality and the homeodynamic principles of integrality, helicy and resonancy provide the foundation for the unitary understanding of this rhythm.

Human energy fields are integral with environmental energy fields. This integrality is characterized by dynamic flow in continuous mutual process. The dynamic flow of integral patterning is innovative, unpredictable and demonstrates increasingly diverse rhythms. While integral, each field exhibits a unique, evolving pattern. Rogers (1970) said that energy fields are in a continuous state of flux (fluid movement) that varies in intensity, density and extent. (p. 90). I found this reference interesting because density (viscosity) and speed (intensity) are characteristics that determine the amount of turbulence in any flow. In the dynamic flow in mutual process both fields are simultaneously influencing and being influenced by the other.

The Middle English, French and Latin origins of the word “influence” mean “in-flow” or “to flow between”, apropos for mutual process. (Merriam Webster Dictionary online).

The flow of turbulence-ease exhibits movement and tempo, a rhythmic pattern. Rogers (1970) said, “The life process may be likened to cadences – sometimes harmonic, sometimes cacophonous, sometimes dissonant: rising and falling; now fast, now slow, ever-changing in a universal orchestration of dynamic wave patterns”. (p. 101). The density and intensity of the field relates to the degree of turbulence. Fields with greater density, and slower flow would have less turbulence than those with less density and faster flow. The rhythmic flow of turbulence-ease is not binary, the rhythm is present in infinite variations in human-environmental field patterning.

It is important to define turbulence and ease within the SUHB. Turbulence is defined as a dissonant commotion in the flow of human-environmental field patterning characterized by chaotic and unpredictable rhythms. This is modified from Butcher’s (1993) work. Ease is defined as resonant harmony in the flow of human-environmental field patterning characterized by calm and familiar rhythms. Turbulence increases with accelerating change. With more rapid changes in the human-environmental field, greater possibilities for more turbulent patterning exist.

The theory of accelerating change (Rogers, 1992) suggests that we can expect rapidly changing norms that will be increasingly more diverse. Perhaps the patterning of turbulence-ease is manifesting this increasingly diverse patterning with more cyclic manifestations. We may be experiencing accelerating change as increasing turbulence. Rogers (1992) said, “Manifestations of the speeding up of human field rhythms are coordinating with higher frequency environmental field patterns. Humans and their environments evolve and change

together, therefore radiating increments of widely diverse frequencies are common household accompaniments of everyday life. Environmental motion has quickened, while atmospheric and cosmological complexity continue to grow” (p. 32). Through participation in patterning it is possible to shift from a more turbulent pattern to greater ease and vice versa. For example, the trend toward mindfulness and meditation indicates a recognition of the need for patterning the human energy field toward ease within a volatile, uncertain, complex and ambiguous (VUCA) environmental energy field. Rogers reminds us that we do not need to fear these VUCA manifestations; instead, this portends increasing opportunities for creativity and innovation. So, as change is accelerating we may experience increasing episodes of turbulence in our lives, and this has the potential for enhancing creativity and innovation if we participate wisely with it.

Pattern manifestations on the extreme side of turbulence might be disorientation, anxiety, agitation, turmoil, panic, inability to think clearly, as well as excitement, falling in love, epiphanic realizations, bursts of creativity, and profound life changes. I described a time in my life that where my pattern manifestation of extreme turbulence was experienced as losing my bearings, spinning out of control, inability to think clearly and perform everyday functions well, and manifesting symptoms such as difficulty breathing and tachycardia (out of control rhythms) as well as insights that led to changes in patterning and greater wellbecoming. Pattern manifestations of ease might be: an inner sense of rightness with the world, a sense of peace, understanding, focus, satisfaction, calm, relaxation, rest, repose, appreciation, and equanimity as well as security and clinging to the routine and familiar.

Let’s look at the characteristics of turbulence from the discipline of physics and how they might relate to the discipline of nursing from a unitary science worldview. Irregularity is the first characteristic of turbulence. The pattern of a turbulent human-environmental energy field is

experienced, perceived or expressed as having dis-synchronous, chaotic, and unpredictable rhythms. The process and outcome of turbulent flow is unpredictable. According to Rogers unpredictability is characteristic of the integral mutual process. The pattern manifestation of turbulence in the life process may be experienced as dis-synchronous, chaotic rhythms.

Another of the scientific qualities of turbulence is diffusivity. Diffusivity increases with rapid acceleration and blending of all within the flow. With integrality we would expect that we might sense rhythms of turbulence or ease in the environmental field. Anything in the midst of turbulent flow is influenced by it. I think we can think of a time that of entering a turbulent environment and how this almost instantly is perceptible. On the other hand, we might recall the experience of ease felt from being in a serene place in nature or a room where people were praying or meditating. This illustrates the principle of diffusivity.

Another quality rotationality is experienced in the pattern manifestation of spinning or swirling. This language is used to describe life experiences of turbulence. Rotationality of turbulence refers to larger vortices spawning other vortices. It's possible to apply this to how spinning out of control in one area of one's life isn't discrete; this experience spills into other areas as well.

Dissipation, another quality of turbulence, means that turbulence persists through an energy source given to it; without an energy source it dissipates. Within the SUHB we can think consider the possibility of patterning from turbulence to ease by not giving it energy. So when we are in the midst of experiencing turbulence, intentionally shifting our focus and energy away from it might have the potential to shift the pattern toward greater ease. Knowing participation in change through awareness, choice, freedom to act intentionally and involvement in creating change are ways to shift the pattern (Barrett, 2020).

The final point is the understanding that turbulence-ease is on a continuum with infinite varieties to this rhythmic pattern. This provides understanding that the rhythm is continually changing and there are always possibilities for deliberate mutual patterning in this process.

Possibilities for Wellbecoming in the Patterning of Turbulence-Ease in the Life Process

Rogers (1970, 1992) stated that the purpose of nursing is to promote human betterment or well-being. Phillips (2015) suggested the use of the term wellbecoming to capture the dynamic nature of well-being. From this perspective professional nursing practice is promoting symphonic patterning in human-environmental fields, to strengthen knowing participation in change that facilitates patterning for wellbecoming. How do we as nurses take this understanding of turbulence-ease to enhance wellbecoming? Nurses engage with persons experiencing infinite variations in the rhythm of turbulence-ease. Wellbecoming is subjectively defined by the person. Nurses might explore this patterning with clients. What are experiences, perceptions and expressions of turbulence-ease in the lives of our clients? How can they knowingly participate in change that can shift these rhythms in ways that facilitate their wellbecoming? There may be increasing experiences, expressions and perceptions of turbulence related to accelerating change. It is important not to label turbulence as “unwelcome” or “bad”; it may present opportunities for the emergence of new patterning. Turbulence may be an invitation for change, growth and healing.

Rogers (1970) suggests that rhythm profiles might become standard diagnostic data within health assessments. What if the nurse developed a rhythm profile of turbulence-ease as part of the human-environmental field pattern appraisal?

Nurses need to recognize that both turbulence and ease are necessary for wellbecoming. Those experiencing the pattern of turbulence can participate knowingly in change through health

patterning processes such as: deep breathing, guided imagery, meditation, gardening, walks in nature, for greater ease. A more centered human energy field may experience and perceive less turbulence so engaging in regular centering practices, whatever these may be may color the quality of the experience of turbulence.

On the other hand, there may be a need to participate knowingly in change by inspiring creativity through introducing some turbulence. We might need to generate some turbulence in our lives to make changes that are necessary for our wellbecoming. This might be accomplished by pushing ourselves out of our “comfort zones”, embracing the unfamiliar, re-framing change as necessary for growth and wellbecoming, and becoming more comfortable with the feelings surrounding turbulence without labelling these feelings as “bad”. Have you ever had a teacher or mentor challenge your thinking in a way that led to a whole new insight? Martha Rogers’ ideas shook the foundations of nursing. Her science turbulently rocked nursing’s world and for the better. Nursing has evolved because of the turbulence she created. This turbulence was important for innovative thinking.

Caring has possibilities for the patterning of turbulence-flow. Two of the constituent meanings of unitary caring (Smith, 1999; Smith, 2020) are: attuning to dynamic flow and inviting creative emergence. In attuning to dynamic flow the nurse is sensing where to place emphasis and focus based on the rhythms sensed in relationship. In sensing the rhythm of turbulence-ease the nurse can begin to focus on this patterning by exploring the experiences, perceptions and expressions of the client. Through inviting creative emergence, another constituent meaning in unitary caring, the nurse can help the client recognize or appreciate the pattern manifestations of turbulence-ease, explore the meaning of the manifestation and see the possibilities for change toward wellbecoming. Persons in the midst of intense suffering, fear,

uncertainty experience turbulence in their lives. The nurse as environmental field, integral with the client's field, can bring a calm, centered presence that can potentiate greater ease for the client. How do we create environmental fields that have possibility of shifting patterning from turbulence to ease? Music, sounds, touch, beauty, meaningful people and things create a healing environment has the potential to enhance ease. It is possible to experience turbulence-ease at a community and global level. The COVID-19 pandemic is one example. The turbulence experienced collectively as fear, uncertainty, struggle, and separation co-exists with the ease experienced as slowing down, focusing on and appreciating what matters most in life. Nurses can address global turbulence by advocating for social justice, engaging peace-making initiatives and promoting health access and equity.

The purpose of this paper was to explore the patterning of turbulence-ease in the life process through the lens of unitary science. The nature of turbulence-ease was explored through multiple patterns of knowing. These insights informed the further development of the pattern of turbulence ease in unitary science and generated potentials for knowing participation in the patterning of turbulence-ease in nursing practice.

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Figure 3. Vincent Van Gogh's *Starry Night*

Accessed from https://en.wikipedia.org/wiki/Vincent_van_Gogh#/media/File:Van_Gogh_-_Starry_Night_-_Google_Art_Project.jpg on 2/16/2020.



Figure 4. Van Gogh's *Road with Cypress and the Star*

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Figure 5. Van Gogh's *Wheat Fields with Crows*

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Figure 6. Van Gogh's *Self Portrait*

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