

**Visions: The Journal of Rogerian Nursing Science
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1. Content must reflect some aspect of Rogers' Science of Unitary Human Beings (research, theoretical issues, etc.)
2. The manuscript must not be submitted elsewhere for consideration.
3. Manuscripts will not be returned.
4. Authors will follow the format of the *Publication Manual of the American Psychological Association* (5thEd.).
5. Once the manuscript has been accepted for publication, authors must submit a hard copy plus a copy prepared on a 3 inch disk in Microsoft Word, prepared on a Windows compatible or Macintosh computer.

Organization of manuscripts:

1. Identification page (name, address, phone number, affiliation and professional title and running title) (Optional: e-mail address).
2. Title page (no author identification).
3. Abstract followed by 3-4 key words for indexing.
4. Text of 15-20 pages plus references.

Each manuscript will be reviewed by three members of the Review Panel. Final decision rests with the editors. Manuscripts are accepted for review at any time during the year. Deadlines for the next issues are February 1 and July 1. Submit 4 copies of the manuscript.

Columns:

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Editorial

“The Future is Here!”

Martha H. Bramlett

Taken from the front cover of this issue of *Visions*, these are some of Martha Rogers' final words printed in *Visions*. The inscription you see on the front cover of this issue is one Martha made on Sarah Gueldner's premiere issue of the journal and was written on October 31, 1993, less than a year before she moved to her cosmic address. It was first published on the second issue of the journal in 1994, shortly after Martha died. This year, 2008, marks two significant anniversaries. The Society of Rogerian Scholars is celebrating its 20th anniversary and *Visions* is celebrating its 15th anniversary. It seemed important to take a look at both where we have been and where we are going. Therefore, for this issue of *Visions*, the editors have chosen one article from each of the first 4 issues of *Visions* and reprinted them along with invited commentaries reflecting on the current state of the science and how the Science of Unitary Human Beings is evolving. In reading the articles and the corresponding commentaries, it becomes clear that the Science of Unitary Human Beings has seen expanding theory development and research. Yet, just as was our situation 20 and 15 years ago respectively, we still need to continue to expand our research base, and to incorporate the Science of Unitary Human Beings into practice. We still struggle to convince our often biomedical dominated profession of the importance of a unitary approach in practicing nursing. Opportunities for publication have greatly increased, and yet we still occupy the periphery of the greater world of publication. Funding for research openly utilizing the Science of Unitary Human Beings as the theoretical base, while more available, is still the exception.

Yet, the journey remains fantastic and exciting. Research methodologies specific to Martha Roger's framework continue to evolve and measurement instruments are multiplying. New generations of scholars share the enthusiasm for exploring the Science of Unitary Human Beings. At the October 2008 meeting of the Society of Rogerian Scholars hosted by Case Western Reserve Frances Payne Bolton School of Nursing, the discussions were enthusiastic and stimulating. The future was palpable – and it is now. We dedicate this issue to our path, always evolving. As you read, consider where we have been and what your contribution will be to the future.

The Society of Rogerian Scholars will meet be meeting next year October 23-25, 2009 at Florida Atlantic University in Boca Raton, Florida. Come evolve with us.

Reflections on the Science of Unitary Human Beings in Terms of Kuhn's Requirement for Explanatory Power

Martha H. Bramlett, RN;PhD.
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Abstract

Nursing is currently challenged with numerous competing theoretical frameworks. With these diverse conceptual systems grounded within disparate paradigms, nursing scientists must discern which of the developing paradigms hold the greatest validity and utility for nursing. This discussion addresses Rogers' Science of Unitary Human Beings in terms of Kuhn's requirement for explanatory power. Exemplars are presented and challenges for the future are discussed.

Key Words Nursing Theory, Kuhn, Science of Unitary Human Beings, Martha Rogers

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Evolving Paradigms

Nursing, as characterized by its developing paradigmatic state, is currently challenged with numerous competing theoretical frameworks, conceptual systems and even sciences. These contemporary theoretical bases for nursing vary greatly in their level of abstraction and in their philosophical foundations. While these competing conceptual systems have been categorized into various paradigms, theorists have rarely divided them along the same line (Chinn & Jacobs, 1987; Fawcett, 1984; Parse, 1987). Parse (1987) proposed that the evolving theoretical bases for nursing could be classified in either the Totality Paradigm or in the Simultaneity Paradigm.

The only real consensus is that a number of proposed paradigms exist and that they vary considerably in their philosophical bases. The challenge now facing nursing is to arrive at consensus regarding which of the developing paradigms hold the greatest validity and utility for nursing. Such consensus would facilitate progression of the science of nursing by focusing the efforts of researchers and scholars on the central phenomenon of critical interest to the discipline. This focus would not only provide direction for research and inquiry, but would also clarify the identity of the profession for the greater scientific community. In addition to determining the general philosophy of the science, the

paradigm circumscribes the *very* field of questions to be asked, espousing some and disregarding others. Similarly, the paradigm selects scientific methods to be favored while rebuffing others. In other words, it is the paradigm that provides the scientific framework and methodology for investigation (Chinn & Jacobs, 1987; Kuhn, 1970; Nagle & Mitchell, 1991). Thus, as the nursing profession selects possible theoretical bases, the profession is simultaneously deciding on a paradigm or paradigms for the discipline.

Kuhn's Perspective of Emerging Paradigms

Kuhn (1970) has observed trends in the evolution of a science and in the ways members of the discipline select a paradigm. For instance, Kuhn notes that it is not uncommon in developing disciplines for several theories to be proposed. In time, and after intense dialogue and rigorous testing, one paradigm gradually gains almost universal acceptance by the members of the professional community.

Since nursing is a relatively new discipline, its theoretical statements are just beginning to emerge. Over the past two decades several nursing paradigms have been proposed, and are presently being critically analyzed and tested by nursing's scientific community. Following Kuhn's logic, as the results of the testing are disseminated, one paradigm, perhaps greatly modified or expanded over time, will eventually obtain widespread acceptance by members of the profession, thus become nursing's paradigm. Other paradigms proposed will either be rejected or subsumed within the primary paradigm. It is therefore the charge of contemporary nursing to engage in the critical scientific review of each of the competing theoretical frameworks in the pursuit of its unique theoretical base. Addressing this challenge, the Science of Unitary Human Beings is herein examined for its potential as a paradigm for nursing. This conceptual system is especially analyzed for its ability to fulfill Kuhn's requirement for explanatory power.

According to Kuhn (1970), the acceptance of a paradigm by a professional community is related to its ability to explain the phenomena of central concern or to solve problems unique to the discipline better than competing paradigms. In other words, Kuhn insists that the finally accepted paradigm must solve those "puzzles" inherent in the discipline. However, as stated earlier, such consensus is a slow process plagued by confusion emerging from imprecise articulation with regard to terms. For instance, in his discussion of paradigms Kuhn used the term with at least 21 different connotations (Eckberg & Hill, 1980).

Kuhn's many usages of the term "paradigm" can generally be divided into three categories with the more abstract categories subsuming the less abstract. The most abstract and general category identified is one of metaphysical paradigms which consist of unquestioned presuppositions (Eckberg & Hill, 1980). The next level, the disciplinary matrix, represents the subculture of the disciplinary community and can be identified by the commonality of beliefs, values, and symbolic generalizations. These beliefs

are not necessarily common to the entire discipline (e.g. all of nursing) but rather to a special community (e.g. proponents of a specific theory) (Eckberg & Hill, 1980; Kuhn, 1970).

Exemplars of Kuhn's Paradigms

The least abstract and most restrictive of the three uses of paradigm is expressed by exemplars. It is the exemplar that is most closely related to puzzle solving and explanatory power. Exemplars are the extant problem-solutions encountered in a discipline that show how the scientific theory works. They are encountered throughout the educational process within a discipline and can be found in textbooks, exams and in the periodical literature. By examining them students gain an understanding of how the laws and theories of a scientific community are utilized and applied. It is at the exemplar level that the utility of a theory or conceptual framework is validated (Eckberg & Hill, 1980; Kuhn, 1970). Understandably, it is this exemplar level which greatly influences a community of scientists in their decision to adopt or reject a paradigm.

According to Kuhn (1980), logical proofs cannot be utilized to analyze the opposing paradigms, because logical analysis is always conducted within the framework of a paradigm. Since the various paradigms provide different premises for analysis and inference, logical analysis alone will not lead to resolution of the conflict. Logical comparisons are further complicated if individuals are unwilling to attempt to view the opposing paradigm from within its respective and unique framework. Faced with this dilemma, the scientific community is forced to use alternative methods when choosing a paradigm. One solution, according to Kuhn, is to compare the efficacy of competing paradigms.

A main rationale for selecting a new paradigm is because of its ability to solve problems, which the old paradigm is unable to accommodate. In other words, one must ask, does the new paradigm provide the puzzle-solutions (exemplars) necessary to demonstrate its utility? While new paradigms may provide little help with the problems of central concern in their early development, their early theoretical structures may produce exemplars which demonstrate the potential for utility. One is reminded that paradigms not only provide a conceptual map, but also determine the questions, methods and standards for scientific investigation. Specifically, it is the exemplars which demonstrate how the methodologies are applied, and it is through the exemplars that the puzzle solving ability of a paradigm is demonstrated. Further, it is from the expanding network of exemplars that explanatory power is gained, and that the essential puzzles are clarified and solved (Kuhn, 1970).

Science of Unitary Human Beings

In order to review the Science of Unitary Human Beings in terms of puzzle solving and explanatory power, one must first review the unique attributes of the paradigm. The Science of Unitary Human Beings departs sharply from the traditional mainstream of thought in nursing. Rogers, viewing unitary human beings as the phenomenon of central importance to nursing, presents her

conceptual system as the Science of nursing from which a variety of theories will emerge. Defining unitary human beings as irreducible energy fields, she considers the individual and the environment as integral and irreducible, and uses the term "energy field" to describe each in mutual process.

Rogers presents four concepts as integral to her conceptual system: (1) energy fields, (2) openness, (3) pattern, and (4) pandimensionality. She proposes that energy fields are the basic units of all living and non-living substance. These fields are infinite and exist without boundaries (Rogers, 1986; 1992a). By the concept of openness, Rogers submits that the universe is one of open systems. Pattern is proposed as an abstraction referring to the distinguishing characteristics of energy fields and is the means by which energy fields are identified (Rogers, 1986; 1992). Pandimensionality is de-fined as "a non-linear domain without spatial or temporal attributes" (p.7) (Rogers, 1992a). She postulates pandimensionality to be a characteristic not only of human and environmental fields but of all reality. She promotes this conceptualization as a way of experiencing human beings and their world (Rogers, 1986). Combining these ideas she de-scribes unitary human and environmental fields as being "irreducible, pandimensional energy field(s) identified by pattern and manifesting characteristics different from those of the parts and which cannot be predicted from knowledge of the parts" (Rogers, 1992a).

In addition to these basic concepts, Rogers proposed three principles which she calls the principles of homeodynamics. The principle of resonancy is de-scribed as "the continuous change from lower to higher frequency wave patterns in human and environmental fields" (Rogers, 1990, p. 8). The principle of helicy is defined as "the continuous, innovative, unpredictable increasing diversity of human and environmental field patterns." (Rogers, 1990, p. 8). Finally, the principle of integrality is described as "the continuous mutual human field and environmental field process" (Rogers, 1990, p. 8). According to Rogers (1970, 1987b, 1990), the principles of homeodynamics provide a "new science" way of perceiving human beings and their environment in which changes reflect the mutual process of the two.

A major characteristic of the Science of Unitary Human Beings is the rapid evolution of the science itself as scholars strive to more precisely define and address relevant research questions and methodologies. In such an environment, concepts and principles of the science undergo constant scrutiny to assure conceptual congruence. For example, theories of chaos have been closely examined for their possible correlations with the framework (Phillips, 1991a). Especially intriguing in chaos was the concept of unpredictability, a concept considered to be congruent with the principle of helicy, which also proposes an unpredictable change. Yet Rogers (1992b) has recently expressed concern over the suitability of such comparisons. The science of chaos is based on a three dimensional reality, which proposes that predictability is impossible because science can never accurately measure all variables (Gleick, 1987). This is conceptually different from the pandimensional world view of Rogers, which

proposes that the unpredictability of change is a characteristic of the nature of change rather than a measurement difficulty (Rogers, 19926).

In this rapidly evolving Rogerian conceptual system, each research study provides not only a test of the system but potentially provides the basis for alterations in the conceptual system. There-fore, it is not unusual in examining the literature to find landmark studies citing a Rogerian conceptual base but using terminology and concepts that have since been evaluated as incongruent with the Science of Unitary Human Beings.

Exemplars of Rogers' Science

If it is through the exemplars or puzzle-solutions process that explanatory power is gained, the questions arise, what *are the* exemplars of the Science of Unitary Human Beings? What does the puzzle look like? The term puzzle must be used cautiously when discussing the Science of Unitary Human Beings, since it brings to mind the image of puzzle pieces, a concept innately inconsistent with the Rogerian holistic framework. Unfortunately, our present language falls short in providing an alternative term with more unitary features and realm of meaning. In order to maintain trueness to the integrity of the Rogerian paradigm, one must be cognizant of this basic conceptual hazard.

A major difficulty in elucidating the puzzles presented by the Science of Unitary Human Beings rests with its abstract nature. According to Kuhn's paradigmatic analysis, the Science of Unitary Human Beings is an abstract system existing predominantly at the metaphysical and disciplinary matrix levels. At a metaphysical level, paradigms address the fundamental beliefs underpinning a science. Sarter (1988), in her extensive analysis of the metaphysical basis of the Rogerian abstract system, described the ontological and teleological foundations. She further explicated the new worldview upon which the Science of Unitary Human Beings is based. At the disciplinary matrix level, paradigms address the shared values and symbols of a community of scientists. This level is demonstrated in the language (or symbols) utilized by the community of Rogerian scholars. The sentient nature of human beings and the intrinsic merit of individual human potential, concurrent with the inherent pandimensional nature of the individual, are examples of such values. Numerous abstract conceptualizations such as unitary human beings, energy fields, open systems, and pandimensionality have been theoretically defined but lack extensive elucidation. As theories and conceptual models emerge, the puzzles are be-coming more explicit. These puzzles are reflected in research studies which provide the exemplars by which the utility of the Science of Unitary Human Beings will be judged by the greater scientific community of nursing. This discussion will address exemplars demonstrating concepts of concern, therapeutic modalities and methodologic concerns.

Concepts of Concern

One role of a paradigm is the determination of concepts appropriate for study. At an abstract level Rogers proposes that the phenomenon of interest for nursing is the unitary human being. However, much work has been conducted at

the exemplar level to determine those specific human field manifestations of interest. While identification of manifestations of interest continues with new manifestations constantly being described, those already delineated help to demonstrate the concepts addressed in the Science of Unitary Human Beings that are difficult to investigate within the old world view. These manifestations include constructs with familiar names that have been redefined within the Rogerian Conceptual system such as creativity, mystical experience, paranormal experience, anxiety, pain, laughing, clairvoyance, reminiscence, and relaxation. Furthermore, new constructs have been developed within the framework. These include Human Field Motion (FERENCE, 1986), Power as Knowing Participation in Change (Barrett, 1984), temporal experience (Palletta, 1990) and human field image (Johnston, 1992; Phillips, 1990). A difficulty in investigating such manifestations is the need for measurement or description of these manifestations. Many studies conceptualized within the Rogerian conceptual system have relied on measurement scales developed within other disciplines (Allen, 1988; Allgood, 1986; Bramlett, 1990; Bray, 1989; Conner, 1986; Cowling, 1986; Daffron, 1988; Fedoruk, 1984; Guthrie, 1987; Kutlenios, 1985; McEvoy, 1990; Rawsley, 1986; Smith, 1986). While such scales have undergone close scrutiny for conceptual congruity with the Science of Unitary Human Beings, they remain suspect because of their origins in a old world three dimensional particulate perspective. Malinski (1991) and Reeder (1991) explored aspects of laughing at oneself using phenomenological methodology in an effort to examine the phenomenon from a new worldview. Such inquiries, which provide conceptualizations consistent with the Rogerian abstract system, hold valuable insights about the nature of the phenomena and also facilitate further investigation. As concepts develop within the Science of Unitary Human Beings, efforts to develop corresponding instruments within the framework progress. Two early examples of such instrument development are FERENCE's (1986) Human Field Motion scale and Barrett's (1984) Power as Knowing Participation in Change scale.

Human Field Motion and Power

FERENCE (1986) developed the concept of Human field motion which she proposed as a manifestation of the wave frequency of unitary human beings. She further proposed that time experience, creativity traits, and differentiation were manifestations of human synergistic development that would be correlates of human field motion. Developing an instrument to measure human field motion, FERENCE demonstrated a positive relation-ship between human synergistic development and human field motion. While the instrument has not been without difficulties, (Butcher & Parker, 1988; Gueldner, 1986) it did provide a model for the development of future concepts and instruments.

Gueldner (1986) studied the relationship between imposed motion and human field motion in elderly individuals living in nursing homes. She hypothesized that there would be a positive relationship between imposed motion (rocking) and human field motion. She further hypothesized that there would be a

positive relationship between perceived human field motion and the reported level of restedness. No significant difference was reported between the human field motion scores of individuals who rocked and those who did not rock. However, individuals with higher human field motion scores reported a greater feeling of restedness. In response to measurement difficulties with the original word form of the Human Field Motion Scale, Gueldner and Ference (1988) began development on a picture scale to measure human field motion, thus introducing visual metaphors as a measurement modality. This new scale will further expand measurement options in research dealing with human field motion.

Barrett (1986), examining the relationship between human field motion and power, defined power as "the capacity to participate knowingly in the nature of change" (p. 174). In addition to developing the concept of power within the Rogerian conceptual system, Barrett developed a scale to measure this field manifestation. Finding a significant relationship between human field motion and power, Barrett concluded that as human field motion evolves, the ability to participate knowingly in change increases. Thus she also began the process of tying these uniquely Rogerian concepts together.

Using measures of human field motion and power as indicators of field patterning, Rapacz (1991) investigated the frequency of field patterning in individuals experiencing chronic pain. She found that individuals with chronic pain had significantly (.001) lower scores on both Ference's Human Field Motion scale and Barrett's Power as Knowing Participation in Change Test than persons not in pain. She concluded that individuals with chronic pain have significantly lower frequency patterns than persons who do not have pain.

Temporal Experience

The concept of time and the human experience of time have also been the object of research within the Science of Unitary Human Beings. Conner (1986) investigated human field motion time experience in parents and non-parents (N =414). Time experience was measured using the Time Metaphor Test. She concluded that time experience contributed to the description of parents. Parents' faster perception of time may suggest the evolutionary nature of parent-hood. Butcher and Parker (1988) also utilized the time metaphor test, postulating pleasant guided imagery would pattern the human energy field toward higher frequencies. They found that individuals participating in such imagery experienced a greater sense of timelessness.

Rawnsley (1986) studied the perception of the speed of time passing in terminally ill persons. She found that dying subjects perceived time as passing more rapidly, and that this relationship tended to hold true regardless of the age of the subject. She found that younger persons who were dying perceived the speed of time passing similarly to older persons. She concluded that dying is accompanied by increased field motion and field complexity regardless of chronological age.

Paletta (1990) developed the Temporal Experience Scale (TES) as a measure of the "continuous mutual process of the human field with the movement

of events in the environmental field" (p. 240). While Ference, Barrett and Gueldner all utilized a semantic differential scale format, Palletta utilized metaphors in a likert type scale, thus providing a slightly different format for measurement as well a way to examine time within the non-linear pandimensional Rogerian framework. She supported the TES as predictive of human time and further found the timelessness scale as most predictive of human time.

Creativity

Many research efforts have addressed concepts familiar within the old world view but redefined in a manner conceptually consistent with the Rogerian Science. One such concept, which has received extensive attention, is creativity (Alligood, 1986, 1987; Bramlett, 1989, 1990; Bray, 1989; Conner, 1986; Cowling, 1986; Ference, 1986; McEvoy, 1990; Smith, M.C., 1986). Creativity is viewed within the Science of Unitary Human Beings as a manifestation of human diversity and complexity reflected in the principle of helicy.

Alligood (1986) investigated the concepts of creativity, actualization and empathy. She hypothesized that there would be a positive correlation between creativity and empathy, and between actualization and empathy. Additionally, she hypothesized that the combined contribution of creativity and actualization to the variance in empathy would be greater than either one separately. She demonstrated significant support for all of her hypotheses. In a follow-up study with an older sample (age 61-92), Alligood again found a positive correlation between self-actualization and empathy. However, contrary to the results of her initial study, a negative correlation was found between creativity and empathy in this older sample (Alligood, 1987).

Cowling (1986) found a positive relationship between mystical experience, differentiation, and creativity in college students. He concluded that these results provided support for the principle of helicy.

Bray (1989) investigated the relationships among creativity, time experience and mystical experience proposing that timelessness, creativity, and mystical experience were all manifestations of greater diversity. Using a preference for complexity on the revised art scale as a measure of creativity and the Time Metaphor Test as a measure of time experience, Bray failed to find support for her hypothesis

Studying complexity as a correlate of the experience of dying, McEvoy (1990) hypothesized that persons would exhibit increased levels of creativity and increased incidence of paranormal events, both judged to be indicators of complexity, as they approached death. While the incidence of paranormal experiences increased over time, no differences in creativity were seen, thus yielding only partial support for the principle of helicy.

Bramlett (1989) investigated creativity in older adults using phenomenological methodology. She concluded that the human experience of creativity was a lifelong process and that environment is crucial in facilitating inspiration and motivation. She surmised that results supported the Rogerian

conceptual system. In a study of the relationship between power, creativity and reminiscence in well elders, Bramlett (1990) utilized the Torrance Test of Creative Thinking as a measure of creative energies. Subjects participating in a program of reminiscence demonstrated a significant increase in power, but were observed to have a decrease in creativity. Puzzled by this finding, Bramlett (1990), like McEvoy (1990), questioned the conceptualization of creativity as an indicator of complexity and diversity. She further questioned the conceptual congruence of measures of creativity as indicators of complexity and diversity.

These studies collectively have yielded varying support for the Rogerian framework. The difficulties encountered in the conceptualization and measurement of creativity cannot be dismissed in analyzing these results. Until measurement and conceptualization issues of human diversity are resolved, interpretation of creativity as a field manifestation will continue to elude researchers.

Environmental Wave Patterns

Several notable studies have investigated the mutual process between human beings and environmental wave patterns present in the environment. These studies have dealt primarily with light and sound wave patterns. However, the Rogerian conceptual system is by no means limited to these two manifestations of wave pattern.

Ludomirski-Kalmanson, reasoning that light could be perceived by the human field without vision, conducted her study involving exposure to red and blue light in a sample of totally blind adults. She hypothesized that human field motion would be increased during exposure to blue light as opposed to red light, regard-less of visual sensory perception. As predicted, she found no significant difference in the human field motion scores of sighted and blind subjects. Also as predicted, she found that subjects exposed to blue light exhibited significantly higher human field motion scores than subjects under red lights (Ludomirski-Kalmanson, 1984; Winstead-Fry, 1986). This study provided impressive support for the principle of integrality.

McDonald (1986) conducted a study with persons having chronic pain to determine the nature of the relationship between the environmental presence of certain visible lightwaves and the human experience of pain. She hypothesized that persons exposed to higher frequency (blue) lightwaves would experience less pain than persons exposed to lower frequency (red) lightwaves. She also hypothesized that longer exposure to the blue lightwaves would more likely be accompanied by a reduction in the experience of pain than shorter exposure times. She found a trend toward greater pain relief with blue light exposure, and re-ported a statistically significant correlation between longer exposures to blue light and relief of pain.

Malinski (1986) explored the relationship between hyperactivity in children, perception of short wavelength light, and color preference. While no statistically significant results were reported, the hyperactive children in the study tended to

be able to identify information illuminated with lower light filters than children in the control group.

M.C. Smith (1986) proposed that subjects in an environment of high-frequency sounds would demonstrate greater increases in vividness and creativity of imagery than would subjects in a low-frequency sound environment. Finding no support for her hypothesis, M.C. Smith cited the need for consideration of both theoretical and methodological issues. She further suggested that future research involving sound frequency should consider qualities of sound beyond frequency.

M.J. Smith (1986), testing the principle of integrality, investigated the relationship between a varied harmonic environment and restedness in individuals confined to bed. Smith hypothesized that the "perception of restfulness will be lower (subjects will be more rested) for confined subjects who experience varied harmonic auditory input than for those who experience quiet ambience" (M.J. Smith, 1986, p. 23). Providing either composed music or ambient room noise, M.J. Smith found that subjects who listened to the composed music perceived themselves as significantly more rested, supporting the principle of integrality.

Unitary Field Pattern

Carboni (1992), developing an instrument to measure unitary field pattern, described the concept of the healing human-environmental field and developed an instrument called "Mutual Exploration of the Healing Human Field-Environmental Field Relationship." Carboni's work, conceptualized within the Science of Unitary Human Beings, is especially notable in that it introduces methodology emphasizing holistic ways of knowing as evidenced by the open format of the instrument and the various ways individuals are requested to express their patterns. Scale activities include writing poems and drawing diagrams.

Human Field Image

Johnston (1992), expanding on the concept of human field image introduced by Phillips (1991 b), presented the further development of the concept of human field image and the preliminary development of a scale using metaphors to measure human field image. Thus, further elucidation of the Science of Unitary Human Beings progresses, providing an ever broadening base of exemplars.

Therapeutic Modalities

Numerous therapeutic modalities have been investigated within the Rogerian Conceptual System. These include but are not limited to imagery (Bryan, 1990; Butcher & Parker, 1988), and therapeutic touch (Fedoruk, R.B., 1984; Heidt, 1981, 1990; Keller & Bzdek, 1986; Krieger, 1973, 1975; Krieger, Peper & Ancoli, 1979; Meehan, 1985; Quinn, 1984, 1989).

Imagery

Guided imagery has been conceptualized as a useful modality in field patterning. Bryan (1990) found that individuals participating in guided imagery prior to and during magnetic resonance imaging demonstrated less anxiety and movement than those not utilizing guided imagery. Butcher & Parker (1988)

found that those subjects participating in pleasant guided imagery had a greater sense of timelessness. A similar relationship between imagery and human field motion was not demonstrated. However; results of this and other studies support the potential of imagery as a modality in health patterning.

Therapeutic Touch

Therapeutic touch has received growing attention as a therapeutic modality. First conceptualized and investigated within nursing by Krieger (1973, 1975; Krieger, Peper & Ancoli, 1979), numerous researchers have expanded on the theoretical and research base of therapeutic touch (Fedoruk, R.B., 1984; Heidt, 1981; Keller & Bzdek, 1986; Meehan, M.C., 1985; Quinn, 1984, 1989). In Krieger's (1973, 1975) early research, subjects receiving therapeutic touch experienced significant increases in hemoglobin levels thus supporting the potential of therapeutic touch in patterning human fields.

The relationship between therapeutic touch and anxiety has also received much attention. Heidt (1981) and Quinn (1983) both found that subjects experiencing therapeutic touch demonstrated significant decreases in anxiety. While Heidt utilized therapeutic touch with physical contact, Quinn used therapeutic touch without physical touch, thus supporting the theoretical proposal that this modality is based on mutuality of energy fields rather than relying on physical touch. However, Quinn (1989) failed to demonstrate decreased anxiety in a later study of subjects awaiting open heart surgery who received therapeutic touch. Citing the confounding considerations of methodological issues and medical regimens, Quinn demonstrated some of the subtle complexities of this modality.

The utility of therapeutic touch in individuals experiencing pain has also been inconsistently demonstrated. Meehan (1985) was unable to demonstrate statistical significance when using therapeutic touch in adults with postoperative pain. However, Keller (1986) did find significant decreases in pain in adults with tension headaches who received therapeutic touch.

Heidt (1990) conducted a grounded theory analysis of nurses' and patients' experiences of therapeutic touch. Categories of experience reported included opening intent, opening sensitivity and opening communication. This qualitative study provided elaboration of the experience of therapeutic touch thus further illuminating the subtleties of this therapeutic touch.

Collectively, these studies provide strong evidence of the potential for therapeutic touch as a therapeutic modality in field patterning.

Explorations in Methodology

In addition to determining the subjects of concern, paradigms, especially at the exemplar level, determine the methodologies appropriate for the science. Rogers (1991) stated that methodology is driven by the research question and is not an end in itself. However; a diverse repertoire of methodologies does expand possibilities for scientific inquiry. Many studies conceptualized within the Science of Unitary Human Beings have utilized traditional quantitative methodologies. While this discussion will concentrate on exemplars demonstrating alternatives to

this quantitative tradition, numerous studies have demonstrated the use of quantitative methodologies in this conceptual system.

Numerous researchers have utilized qualitative methodologies to examine human field manifestations. Bramlett (1989), as previously discussed, utilized phenomenology to investigate the experience of creativity in older adults, Malinski (1991), utilizing a qualitative analysis-synthesis methodology described by Parse, Coyne and Smith (1985), investigated the experience of laughing at one-self in older couples. Similarly, Reeder (1991) investigated the importance of knowing what to care about through laughing at oneself using Husserlian Phenomenology. Malinski and Reeder not only introduced an area for investigation rarely attended to in other paradigms but also modeled alternative methodologies.

Lothian (1989) utilized grounded theory methodology to gain a better understanding of the process of continuing to breastfeed. Conceptualizing breast feeding as a manifestation of human environmental field process, she studied breastfeeding in context and over time. From the data, Lothian developed a model that she proposed to explain breastfeeding duration. Thus, Lothian utilized grounded theory for the generation of a new theoretical model within the Science of Unitary Human Beings.

Solutions for Nursing's Puzzles?

Questions remain: does the Science of Unitary Human Beings provide solutions for nursing's puzzles? Does Rogers' conceptual system exhibit explanatory power? Of course, in order for a new paradigm to even be considered, there must first be some concern regarding the adequacy of the existing paradigm. Holden (1991) expresses such frustration. Searching for answers within a paradigm based on Cartesian dualism, Holden de-scribes the difficulty encountered in trying to simultaneously maintain a holistic view of humans while conducting investigation in a science that insists on dividing the whole into parts. It is just such frustration for which the Science of Unitary Human beings provides a viable alternative.

The Rogerian conceptual system provides a framework for viewing the unitary human being and allows the re-searcher to leave behind the frustration of Cartesian duality. Simultaneously new concepts and models are promoted. Of course, there has been little or no duplication of studies to reinforce significant findings. Additionally, documented difficulties with instrumentation for measuring the abstract variables have hindered the search for solutions. Many instruments used for these studies were borrowed from other conceptual frameworks and are judged to have varying degrees of conceptual inconsistency with the Science of Unitary Human Beings. Early exemplars are providing embryonic explanations for some of the puzzles of nursing. While such confirmations are limited, these verifications are likely to be expanded as research within the Rogerian conceptual system progresses.

The findings of initial research have begun to provide guidance for the selection and development of appropriate methodologies. Being mindful of

Kuhn's challenge of explanatory power, the Science of Unitary Human Beings must provide a framework for organizing information as well as depicting the emergence of pattern manifestations. Future efforts must be guided in directions that will explain and envision patterns exhibited by unitary human beings, which constitute the phenomena of primary concern to nursing.

Certainly inroads have been made in this direction, but past findings must be corroborated and expanded. New and innovative research methodologies, consistent with the Rogerian Conceptual System, need to be developed. Reeder's (1986, 1990) extensive philosophical analysis validating the use of Husserlian phenomenology as a methodology congruent with the Rogerian abstract system is an example of such needed efforts. If the Science of Unitary Human Beings is to gain the broad consensus of the community of nurse scientists, the Rogerian Science must provide solutions to many more of nursing's puzzles. The remarkable progress made within the last decade gives evidence that this exciting, avant garde paradigm may hold the potential to meet this challenge.

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Progress in the Explanatory Power of the Science of Unitary Human Beings:
Frubes in a Lull or Surfing in the Barrel of the Wave
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Fifteen years ago *Visions: The Journal of Rogerian Nursing Science* was launched with Martha Rogers' stating, "the journal is a very significant step forward, and I'm delighted (1993, p. 3)." She went on to say that the debut of the *Visions* represented a significant step in the evolution of the Society of Rogerian Scholars and that the Journal can be a forum in "transmitting ideas, creating new ways of thinking, and making new knowledge readily available to more people" (1993, p. 3). The fact that the Journal continues to be the major vehicle in publishing conceptual, methodological, and practice advances specific to Rogerian Science is indeed an enduring testament to meeting the challenge of disseminating scientific innovation.



In that inaugural issue, Bramlett, Gueldner, and Boettcher's (1993) article "Reflections on the Science of Unitary Human Beings in Terms of Kuhn's Requirement for Explanatory Power" reprinted here stands out as an accurate and comprehensive representation of the status of the Science of Unitary Human Beings in 1993. Using Kuhn's historical account of how science undergoes revolutionary change, the authors discuss the advances in identifying phenomena of concern relevant to Rogerian informed approaches to inquiry. Bramlett, Gueldner, and Boettcher's (1993) employ Kuhn's (1962) idea of exemplars to examine the explanatory power the Science of Unitary Human Beings has toward solving puzzles relevant to nursing's primary concern. They end their article concluding, "remarkable progress made within the last decade gives evidence that this exciting, *avant garde* paradigm may hold potential to meet this challenge" (p.33). But, have the last 15 years since this publication been equally "remarkable?" The purpose of this paper is to reflect on the progress made in Rogerian Science since the publication of Bramlett, Gueldner, and Boettcher's (1993) landmark article, and like the authors, use of Kuhn's (1962) idea of progress in scientific revolutions point to future activities that will better situate Rogerian Science in the coming wave of scientific transformation.

An Expanding Phenomena of Focus

Conceptual frames of reference contribute to identifying concepts of concern. Concepts such as power (Larkin, 2006), pain (Lewandowski, 2004; MacNeil, 2006; Matas, 1997), time experience (Alligood & McGuire, 2000; Davis, 2006) identified by Bramlett, Gueldner, and Boettcher's (1993) continue to be a

focus of Rogerian inquiry. Over the past 15 years, there is a clear broadening of concepts conceptualized within a unitary perspective including therapeutic touch (Malinski, 1993); spirituality (Hanchett, 1992; Hardin, 1997; Malinski, 1991, 1994; Smith, D. W., 1994; Reeder, 1997; Rush, 1997; Sarter, 1997), hope (Salerno, 2002), appreciation (Cowling, 1997), dispiritedness (Butcher, 1996), despair (Cowling, 2005), empowerment (Shearer & Reed, 2004), compassion (Butcher, 2002); caring (Smith, M.C., 1999), time (Davis, 2006), awareness (Schneider, 1995), risk taking (Hastings-Tolsma, 2006) and intentionality (Zahourek, 2005).

One marker of the emergence of a new science is the creation of new concepts along with ways to identify and/or measure these concepts in research contexts. A number of instruments used to measure unitary indices continue to be developed and used in Rogerian informed research. By far the most robust measure employed in Rogerian research is Barrett's (1984) Power as Knowing Participation in Change Tool (PKPCT), which has been used in a wide variety of research studies. Caroselli and Barrett (1998) reviewed 15 years of research using the PKPCT, which included 16 articles published between 1993 and 1998. Since 1998, the PKPCT continues to be used widely in Rogerian research (Hurley, 2005; Kim, 2001; Kim, Park, & Kim, 2008; Larkin, 2007; Lewandowski, 2004; Malinski, 1997; Siedliecki & Good, 2006; Smith, D. W., 1995; Smith, D.W., & Broida, 2007; Wall, 1999; Wright, 2004). Additional instruments specific to the Science of Unitary Human Beings developed after the publication of the 1993 journal include the Diversity of Human Field Pattern Tool (Hasting-Tolsma, 1992), Perceived Human Field Motion Tool (Yarcheski, Mahon, & Yarcheski, 2002; 2004), Human Field Image Metaphor Scale (Johnston, 1993, 1994) as a measure of awareness of the infinite wholeness of the human field; Mutual Exploration of the Healing Human Field–Environmental Field Relationship Creative Measurement Instrument (Carboni, 1992); Well-being Picture Scale (Gueldner, Bramlett, Liu, Johnston, Endo, Minegishi, & Carlyle, 2005), formally know as the Index of Field Energy (Gueldner, 1998); Assessment of Dream Experience Scale (Watson, 1999); and Person-Environment Participation Scale (Leddy, 1995).

Emergence and Testing of Unitary Patterning Modalities

Rogers (1988, 1992, 1994) repeatedly asserted that non-invasive patterning modalities are central to nursing and to the enhancement of human betterment and well-being. Increasingly, non-invasive modalities have continued to be a major focus of Rogerian research including the use of music (Siediecki & Good, 2006), Reiki (Ring, 2006), acupuncture (Walling, 2006), therapeutic touch (Denison, 2004; Smith, D.W., & Broida, 2007; Samarel, 1992; Samarel, Fawcett, Davis, & Ryan, 1998), guided imagery (Lewandowski, 2004), reminiscence (Bramlett, & Gueldner, 1993); magnetism (Kim, 2004), and support groups (Larkin, 2007). New patterning modalities such as, kaleidoscoping (Butcher, 1993) written expression (Butcher, 2004), and metaphoric unitary landscape narratives (Butcher, 2005a) have also been developed.

Advances in Rogerian Theory Development

A second marker of the emerging explanatory power of an emerging science is the development of theories derived from the abstract system. Like the development of new concepts and measurement tools, the development and testing of theories developed from the Science of Unitary Human Beings is the work of a community of established and aspiring Rogerian scholars/scientists. Malinski (2006) reviewed key Rogerian Science-based nursing theories. Most having been developed since the publication of the Bramlett, Gueldner, and Boettcher's (1993) article including Reed's (1991) theory of transcendence; Butcher's (1993) theory of kaleidoscoping in life's turbulence; Bultemeier's (2006) theory of perceived dissonance; Hill and Hanchett's (2001) theory of enlightenment; Carboni's (1995a) Health-as-Unfolding-Wholeness; Shearer and Reed's (2004) theory of empowerment; Butcher's (2003) theory of aging as emerging brilliance; Zahourek's (2004, 2005) theory of intentionality in healing; and Smith's (1999) reconceptualization of caring within a unitary perspective. These are some of the key advances in Rogerian theory development over the past 15 years.

New Methodologies

A third marker of emerging explanatory power is the development of both research and practice methods that are consistent with the paradigm's ontological and epistemological assumptions. Rogers (1992), as well as a number of Rogerian scholars called for the development of research methodologies specific to the SUHB (Phillips, 1988; Rawnsley, 1990). Bramlett, Gueldner, and Boettcher (1993) were actually among the first to state "new and innovative research methodologies, consistent with the Rogerian conceptual system, need to be developed" (p. 33). At the time their article was published, there were no Rogerian specific research methodologies. A number of qualitative methods, all published within a close span of time, have been developed. Butcher (1994, 1998, 2005b) developed the Unitary Field Pattern Portrait research method; Carboni's (1995b) Rogerian Process Inquiry and Cowling's (1998) Unitary Case Inquiry as well as his Unitary Appreciative Inquiry (Cowling, 2001) have emerged since the first journal. All of the methods have been widely endorsed by the community of Rogerian Scholars (Phillips, 2000; Malinski, 2005; Malinski in Fawcett, 2003), yet there have been relatively few published studies using the methods.

Cowling (1993) expanded on the original Rogerian practice model in 1993. As early as 2001, Butcher (2001) began to synthesize Barrett's (1998) updated Rogerian practice model with Cowling's pattern appreciation practice constituents. Butcher's (2006a) continued to develop and refine the practice method and renamed it "unitary pattern-based praxis consisting of two nonlinear and simultaneous processes: pattern manifestation appreciation and knowing, and voluntary mutual patterning." The focus of nursing care guided by Rogers' nursing science is on recognizing manifestations of patterning through *pattern manifestation knowing and appreciation* and by facilitating the client's ability to participate knowingly in change, harmonizing person/environment integrity, and

promoting healing potentialities and well-being through *voluntary mutual patterning* (Butcher & Malinski, in press).

Explications in the Philosophy of Rogerian Nursing Science

The last marker of explanatory power is the development of over-arching philosophical tenants that serve to further clarify the structure of the paradigm or disciplinary matrix. Phillips (1997) called for the elucidation and articulation of a philosophy of the Science of Unitary Human Beings. Sarter's (1988) philosophical inquiry into the ontology of Rogerian science stands out as a significant contribution previous to the Bramlett, Gueldner, and Boettcher's (1993) publication and after their publication, Todaro-Franceschi's (2001) inquiry into the nature of energy stands out as expanding our understanding. In addition, in a 2006 publication, Butcher (2006b) laid out a foundation and model for Rogerian cosmology, philosophy, and science. In this publication, Butcher described the basic tenets of a Rogerian ontology, epistemology, Rogerian-ethics (Butcher, 1999), and aesthetics to create a philosophical-scientific nexus of Rogerian-based knowledge designed to guide unitary pattern-based praxis in both research and practice contexts. The model is a "blueprint for further articulation of the linkages between Rogerian cosmology, science, and praxis" (Butcher, 2006b, p. 31). The value of the model is that it links together Rogers' postulates, principles, theories, and measurement tools to Rogerian cosmology and philosophy; and illustrates how together, Rogerian philosophy and science guide all aspects of Rogerian based practice and research.

Progress: From Outliers and to "Normal Science?"

I was fortunate to receive an advance copy of Malcolm Gladwell's new book *Outliers: The Story of Success*, which will be published by the time this article is in print. I was intrigued by the title since in the larger scheme of nursing science there may be little doubt that the Science of Unitary Human Beings is an "outlier." Gladwell (2008) defines outlier as "1: something that is situated away from or classed differently from a main or related body" (p. 3). It is interesting to note that in their landmark article Newman, Sime, and Corcoran-Perry (1991) placed emphasis on the distinctions among three competing nursing paradigms: particulate-deterministic, interactive-integrative, and unitary-transformative. While "multiple perspectives are appropriate for knowledge development in nursing, we are convinced that a unitary-transformative perspective is essential for full explication of the discipline" (p. 5). Rogers' Science of Unitary Human Beings is at the core of the unitary-transformative paradigm and in a follow-up to the 1991 article, Newman, Smith, Pharris, & Jones (2008) assert there is movement toward a unified whole transcending the limitations of each nursing paradigm. The authors go on to identify health (the intent of the relationship), caring (the nature of the relationship), consciousness (the informational pattern in the relationship), mutual process (the way in which the relationship unfolds), patterning (the evolving configuration of the relationship), presence (resonance of the relationship), and meaning (importance of the relationship) as central focal concepts. If the authors are correct, there has been a shift toward Rogers'

unitary-transformative perspective with relationships emerging as the central focus of the discipline. However, the question remains, will Rogerian science remain intact as a distinct science within the unitary-transformative paradigm or will it become enmeshed with other unitary perspectives losing its distinctness as a science? How Rogerian science is situated in the unitary-transformative paradigm will be dependent on whether the Science of Unitary Human Beings continues to advance.

Rogerian science is still situated, according to Kuhn's theoretical historical account of the philosophy of science, in a "prenormal" phase of scientific development. While there is a movement towards synthesis in the unitary-transformative paradigm, the paradigm is far from reaching a "tipping point." According to Kuhn, and what is true about Rogerian science, is scientific schools of thought in the prenormal phase have only local or isolated acceptance of exemplary problem solutions. As with Rogerian science, conceptual schools of thought in the prenormal phase constantly have to explain and legitimize the scientific and theoretical foundations of their own approach. Kuhn (1962) goes on to describe in detail how one scientific school vanishes in favor of another, thereby moving from a prenormal to a normal science. Often, the emerging "normal science" has produced an achievement so convincing that members of other scientific schools begin to defect and the emerging science begins to attract the next generation of scientists. Furthermore, scientific revolutions do not happen by just the mere accumulation of knowledge. Kuhn (1962) argues that progress through scientific revolutions depends on a number of factors. The new theory must be able to solve a large portion of the problems that the old theory cannot solve. The failure of the old theory to solve important problems of the discipline creates significant anomalies and eventually leads to a crisis. Not every anomaly leads to a crisis, nor will every member of a scientific community perceive a crisis. Capra (1982) in the *Turning Point: Science, Society, and the Rising Culture*, clearly demonstrated that we are in the midst of a major paradigmatic shift, from a mechanistic view of life grounded in the principles of Cartesian thought and Newtonian physics to an organic systems view of life informed by the philosophical and theoretical implications of a wide area of emerging theories including: quantum theory, relativity theory, and systems theory. The emerging paradigm is inherently holistic, ecological, and participatory. Rogers' Science of Unitary Human Beings is clearly situated in the emerging paradigm while the biomedical model represents the old theory. There is abundant evidence that the biomedical model is in a state of crisis. While transformation is taking place, the declining biomedical model in nursing culture refuses to change, clinging more rigidly to its outdated idea. Dominant social institutions will not relinquish their hold and leading role. As long as nursing attaches itself to the biomedical model, it too will "go down with the ship." Furthermore, Rogerian science is just one of a vast number of emerging theories across multiple disciplines that are positioning themselves to catch the coming wave of scientific revolution.

The critical question concerning the progress of Rogerian science is where is it situated in the coming scientific revolution? Will Rogerian science be positioned to ride the wave crest, or in the accelerating wave barrel as the scientific revolution breaks? Or will Rogerians be the equivalent of a “frube,” never catching the wave, left treading water in the lulls and troughs, as the wave heads toward the impact zone? Will Rogerian science be at the center and leading the revolution in nursing it sparked, or will it be dormant, in hibernation, an outlier on the beach as the tide of transformation swells?

**Getting Situated in the Line up Zone:
Activities in a Time of Extraordinary Science**

I spent some time in Surf City, North Carolina this past summer. Surf culture has developed its own form of language, basically excluding itself and its members from the wider society. I've used some of the surf language as a metaphor throughout this paper. The “line up zone” is that area where the surfers wait just outside the breaking waves for the next wave. But, in terms of scientific revolutions, passively waiting is not sufficient. Researchers, through their activity, participate in creating the waves. Research conducted during a time of crisis by a prenormal science is what Kuhn referred to as “extraordinary science.” Kuhn (1962) described many activities or what he called “symptoms of extraordinary science,” and what is central are the continuous attempts by members of the emerging science to solve the anomalies that triggered the scientific crisis. Indeed, progress in the development of the Science of Unitary Human Beings over the past 15 years has been *remarkable*, but the scientific revolution is far from complete. Rogers' vision is indeed a gift, and it is up to us as a community of scholars to *seize the opportunity* and advance the science.

Gladwell's (2008) central thesis in *Outliers* is that success is not simply the sum of decisions and efforts we make, but rather, success is a gift to those who have been given opportunities, and have the strength and presence of mind to seize them. Over the past 15 years, many nurses have participated in advancing nursing and Rogerian science, but there remains many more “opportunities to seize.”

A critical feature in the tipping from one favored theory to the emerging theory is having a body of research solving a large portion of the problems that were solved by the old theory as well as solving the stubborn anomalies. Rogerian scholars need to significantly elevate both the quantity and quality of Rogerian science informed research. According to Kuhn's (1962) model of scientific revolutions, the choice of one theory over another occurs when one has faith the new paradigm will succeed, however, there needs to be a basis for having faith. The first adherents and supporters of the new theory must produce a “flushing out of the theory . . . solve at least a large portion of problems solved by the older theory with comparable (or greater accuracy), and “predict phenomena that, from the perspective of the older theory, are unexpected” (Hoyningen-Huene, 1993, p. 240-241). While much progress has been made, the fact is, the amount of Rogerian research currently being conducted is miniscule

compared to the research being conducted within the dominate paradigm. Furthermore, there is a pattern of declining published Rogerian research. Thus, if Kuhn is correct, *considerably more* Rogerian research is needed, especially research directed at problems that have been solved by the biomedical model and other nursing and non-nursing theories that are considered out-dated from the perspective of the new emerging theory. To solve large portions of problems solved by the older theories requires reconceptualizing phenomena relevant to nursing within a unitary perspective and demonstrating the efficacy of modalities already demonstrated to be successful as well as demonstrating the success of new modalities more consistent with Rogerian science that enhance well-being and human betterment. Significantly more Rogerian research needs to be directed at identifying, addressing, and solving the significant unsolved problems relevant to nursing and human well-being that are what Kuhn (1962) described as serious, meaningful, troublesome, especially compelling, admittedly fundamental, and crisis provoking (Hoyningen-Huene, 1993).

Engagement: Becoming the Wave

The work of scientific transformation does not occur simply by wading in the water. A remarkable finding in Gladwell's (2008) new book is that outliers are actually super-achievers and are the source of most major innovations. Gladwell (2008) believes that "success is dependent on the 10,000 hour rule, meaning that the path to success involves many hours of effort, commitment, and hard practice" (p. 41).

Gladwell's (2000) earlier book *"The Tipping Point: How Little Things Can Make a Big Difference"* describes how success in reaching a "tipping point" is in part determined by the law of the few in which people function as either connectors, mavens, or salesmen. The "tipping point," like Capra's "turning point," is that dramatic moment when a new idea, like a new theory, reaches critical mass and replaces an old idea. While most certainly the current Rogerian community must be more visible, more active in the activities of extraordinary science, and expand its critical mass by attracting many new members, Gladwell's (2000) "law of the few" illustrates how when relatively few people functioning intensely as connectors, mavens, or salesmen, they are the sources of "social epidemics" that lead to major transformations.

According to Gladwell (2000), connectors are those people who know many people and are linked to the broader social network. They commonly occupy many worlds, subcultures, and niches. Connectors bring people together, and because of their highly social nature, they are willing to meet and play host to a wide array of individuals. The connector has more acquaintances than most people, not just because they are more sociable, but rather they are better able to maintain these relationships than most people. Rogerians who have close ties to numerous academic settings, and at the same time have significant connections to funding agencies or multiple practice settings, can act as a connector. Editors of major journals, leaders of major nursing organizations, are often people who have multiple connections. People just naturally want to know

and interact with connectors. Since connectors are the socialites who know a lot of people and automatically link them together, they can play a key role in spreading new ideas through many communities.

The word “Maven” comes from Yiddish and it means one who accumulates knowledge. Mavens are the gatherers of information in the social network. In terms of Rogerian science, mavens would be the ones who keep up with the advances in science from multiple disciplines that would be relevant to Rogerian science. Rogerian Mavens would have a depth of knowledge and understanding of the Science of Unitary Human Beings, be familiar with classic Rogerian publications, and would keep up with newly published material. Mavens, Gladwell (2000) states, are not persuaders. Rather, “Mavens are really information brokers, sharing and trading what they know” (p. 69). In other words, Mavens are the “thought” leaders and are well respected by their contacts for their knowledge and expertise.

While Mavens are the data banks and Connectors the social glue that spread the knowledge, Salesmen are those with persuasive skills who can convince the unconvinced. Often salesmen have a unique combination of energy, charm, passion, enthusiasm, and likeability that is both powerful and contagious. Some may be able to combine two of these unique roles. A person who has the connections and at the same time has the talent of a Salesman could have tremendous influence in spreading the idea of Rogerian science, as would someone who has a deep knowledge of Rogerian science as well as having many connections. For an idea like Rogerian science to explode in popularity, you need well respected Mavens to be the thought leaders and to be the knowledge experts, Salesmen to pitch it and sell it to his/her connections, and Connectors to pick up on it and spread it exponentially to their vast network.

Similar to the Gladwell’s (2000) recent popular work, Everett M. Rogers (2003) has been studying the “diffusion of innovations” for over 50 years. Diffusion according to E. Rogers (2003) is a process in which a new innovation, such as a theory or new technology, is communicated through channels over time among members of a social system. Communication is the process participants create and the sharing of information with others to reach a mutual understanding. Diffusion can be spontaneous or planned. The success of the innovation reaching critical mass or “tipping point” is influenced by many factors. For example, the innovation needs to have a “relative advantage” over the idea that it supersedes. The innovation should have a period of trialability when it is tested to demonstrate its value and the innovation needs to be visible and observable to others. Demonstrating the relative advantage, testing, and making visible the work of Rogerian science is the work of Rogerian scholars and needs to be intensified for the Science of Unitary Human Beings to continue to progress. Journals, books, conferences, teaching students, the media, websites, and social networks are just some of the channels that must all be used to assure the diffusion of an innovation like the Science of Unitary Human Beings. According to the E. Rogers’ (2003) theory, in order for the idea to spread, the

adopter needs knowledge about the innovation, is persuaded by the evidence, then decides, implements, and confirms the value of the innovation. Five categories of adopters have been identified: innovators, early adopters, early majority, late majority, and laggards. As a community of Rogerians, we need to exponentially increase the number of “early adopters.” E. Rogers (2003) describes in detail the role “opinion leaders” can play informally influencing others with relative frequency about the innovation and in how educated and professional change agents can influence and change attitudes. “Champions” are those charismatic persons who can throw their energy behind an idea in ways that “can help overcome resistance so that the innovation can diffuse throughout an organization” (E. Rogers, 2003, p. 414).

In an earlier publication (Butcher, 2002), actions were laid out that need to be undertaken to assure the advancement of nursing science, as well as Rogerian science in particular. Rogerians “practicing hard” to advance the science can work collectively as Connectors, Mavens, and Salesmen to allow the movement of lulls into swells, and in turn, swells into ever increasing waves. In addition to significantly increasing the amount of Rogerian informed research activities in a time of extraordinary science, those committed to advancing the Science of Unitary Human Beings can: a) live the values of Rogers’ science, in particular the values of courage, commitment, transformation, responsibility, optimism, and wisdom; b) attain positions of responsibility where one can facilitate the diffusion of Rogerian science; c) in teaching situations, create ways to incorporate nursing theory and specifically the Science of Unitary Human beings in every course you teach; d) nurse administrators can lead staff in implementing Rogerian informed practice modalities; e) support the advancement of Rogerian science by being actively involved in the Society of Rogerian Scholars; f) support *Visions: The Journal of Rogerian Nursing Science* by submitting work for publication as well as other significant journals; g) seize opportunities to tell stories to the public, health care professionals, and other nurses how Rogerian informed nursing care makes a difference distinct to nursing; and h) devote serious scholarship and effort toward making sure Rogers’ original work remains easily accessible to educators, students, researchers, administrators, other health care professionals, and the public.

Frubes and Wavegens

Rather than frubes in the lull, for Rogerian science to advance, many more “wavegens” are needed. Wavegens are those who generate waves through their actions. Through active programs of Rogerian guided research, wavegens can enhance the explanatory power of the Science of Unitary Human Beings and propel the science toward reaching critical mass. Wavegens can play multiple roles: Connectors, Mavens, Salesmen, innovators, opinion leaders, change agents, and champions are all needed if the next 15 years to be more successful than the last 15.

Laird Hamilton (2008), the great surfer, explains in his new book that if you can’t swim, you can’t surf. Surfing, he says, “is like playing music. There can be

endless variations on a song: infinite ways to make a melody. And likewise, everyone that rides a wave brings something unique to the process” (p. 180). “Surfing is motion, and its rhythm. We are all equal before the wave. The wind, the tides, the pulse of the swell, the rhythms of the ocean, all went into creating its power” (p. 180). Good waves make good surfers, so you need to be where the good waves are. If you want to become a better surfer, then get out there where the better surfers are so you can learn from them.

We are in a time of extraordinary research. The waves are swelling and a critical mass is approaching. The tipping point of scientific conversion to a unitary-transformative is on the horizon. Rogerian science must be well positioned if it is to “catch” the impending “barrel.” A barrel is both a noun and a verb concerned with the hollow part of the wave formed by the top travelling faster than the bottom when a wave breaks over shallow water. As the wave swells and begins to peak, surfers stand up and direct their boards toward the impending barrel. The surfer becomes one with the wave and when surfing within the wave’s barrel or hollow tube, air, sound, and light, are all transformed. For surfers, riding the barrel is an ultimate, euphoric, and transcendent moment ending when one flies out of the gaping wave and into the bright sunlight.

The ocean is calling. Make waves!

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INTEGRATED AWARENESS: A KEY TO THE PATTERN OF MUTUAL PROCESS

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ABSTRACT

Nursing science has entered into a phase of transition and revolution. Never before has there been such a flux of creative ideas to challenge nurse scholars' scientific visions and to create a more diverse horizon in which to integrate those phenomena. There exists a need for continued exploration into more abstract and complex phenomena. Even though these phenomena may be less amenable to empirical validation, such quests are crucial to the further evolution of nursing science. Martha Rogers' Science of Unitary Human Beings has provided a rich landscape in which to elucidate those concepts.

The focus of this theoretical exploration is directed toward analysis and elucidation of the concept, integrated awareness, and its salience to Rogers' principles of homeodynamics. Integrated awareness is postulated to give a sense of unity, direction, and power to one's life and is further proposed to be a crucial aspect of mutual human field process. Integrated awareness is envisioned as a concept with direct relevance to the nature of human to human mutual process, a phenomenon of critical importance to well-being.

Integrated awareness involves the creation of a matrix in which one is cognizant of a greater awareness of self and environment, including living and nonliving entities as well as the potential for mutual process to occur. Integrated awareness implies an abstract sense of connection or mystical transcendence wherein human and environmental energy fields evolve. It may be perceived as a unifying schema of inner peace, serenity, well-being, and power.

Because of the nature of the complex human phenomena that nursing must address, a conceptual system specific to nursing's area of concern is necessary to discover and refine issues for research. This delineation of the concept, integrated awareness, through concept analysis provides a valuable foundation for theory development as well as further inquiry and research into this specific and complex human phenomenon.

Key Words integrated awareness, M.E.Rogers, Science of Unitary Human Beings, nursing theory, concept analysis

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The new knowledge . . . frees us from the chains of a most narrow dungeon and sets us at liberty to rove in a more august empire . . . of an infinite space, of so worthy a field, and of such beautiful worlds.

Giordano Bruno as cited in LeShan (1984, p. 8).

The discipline of nursing, by virtue of its existential being, continues to evolve. This evolution is inherent to the nature of knowledge and the process of science in transition. A plethora of questions continue to arise regarding the focus and direction of the discipline of nursing. Is nursing an art or is it a science? Is nursing's knowledge unique to the phenomena of its concern or has all knowledge possessed by nursing been acquired from other scientific disciplines then molded, sculpted, synthesized, and adapted for use in the practice of nursing? If so, is nursing a scholarly and academic realm or only a practice realm? To be considered a scholarly and academic discipline as well as a practice discipline, nursing must have a unique body of knowledge based on theories of nursing (Rogers, 1970, 1986). Theories provide direction for a science, determining both the questions to be asked and the manner of query appropriate to answer the questions (Kuhn, 1970). Nursing, as a newly evolving science, has often experienced confusion about its theoretical base and therefore the direction and manner of scholarly inquiry. This quandary and lack of direction has spurred continued rhetorical discourse and debate among nurse scholars who continue in their quest to refine nursing's unifying focus and the direction of nursing research and practice.

Science does not exist without the theoretical underpinnings upon which to structure the evolution of knowledge. The construction of theory, which will bear relevance to nursing as a scholarly discipline and a science, is the ultimate desired out-come of acquiring knowledge specific to nursing phenomena. If theory is to become critical to the structure of the discipline of nursing, then concepts that are relevant to nursing phenomena must be identified, explored, and explicated.

Scientific theory development depends on identification of natural phenomena that are of particular concern to scholars in any discipline. Schlotfeldt (1987) stated:

It is the responsibility of nursing scholars to advance, clarify, verify, and organize knowledge of those phenomena [relevant to nursing] through promulgating and testing relevant and promising theoretical constructs. (p. 66)

As in many disciplines, nursing is experiencing a paradigmatic diversity in which theorists such as Martha Rogers are striving to free nursing from an old worldview that is heavily rooted in empiricism. Instead, Rogers proposed a new worldview that paves the way for exploration of more abstract and elusive

concepts that may enhance the evolution of nursing as a unique science. The new worldview and the vision of the future will generate knowledge specific to nursing's metaparadigm. With this vision, old concepts will be redefined and new concepts will emerge.

Walker and Avant (1988) consider concepts as one of the three basic elements of theory building. A concept is an idea or abstraction that provides knowledge about the essence of a phenomenon (King, 1988). Concept analysis clarifies the association of feelings, values, mental processes, and attitudes that accompany the internalization of word labels associated with those phenomena and is considered a steppingstone in the process of theory construction (Chinn & Jacobs, 1987). Integrated awareness, an emerging concept within the framework of the Science of Unitary Human Beings, is herein presented. The conceptual fit of integrated awareness with the Rogerian theoretical framework as well as practice and research applications are discussed.

Overview of the Science of Unitary Human Beings

In developing a concept, congruence with the scientific framework is crucial. Rogers revolutionized the evolution of nursing as a science with the publication of *An Introduction to the Theoretical Basis of Nursing* in 1970. She synthesized her thoughts about the natural world with the hard sciences of physics and biology. This explosion of creativity combined with her knowledge of Eastern philosophy, psychology, and the paranormal realm, encouraged Rogers to abandon the Cartesian dualism which had so plagued the discipline of nursing and to shift the focus of nursing's concern to the phenomenon of unitary human beings. Rogers' Science of Unitary Human Beings, which provides the conceptual underpinnings for integrated awareness, is based on four concepts and three principles. Rogers (1970, 1986) identified unitary human beings and their environments as the central focus of her conceptual system. Human beings and their environment are regarded as irreducible wholes which cannot be understood if reduced to their particulate components. Rogers (1992) defined the unitary human being as "an irreducible pandimensional energy field identified by pattern and manifesting characteristics that are different from those of the parts and cannot be predicted from knowledge of the parts" (p. 7). The environment was defined as "an irreducible, pandimensional energy field identified by pattern and manifesting characteristics different from those of the parts" (p. 7). The human and environmental fields change continually, mutually, and creatively, and are infinite and integral with one another (Rogers, 1986). The definitions of unitary human beings and their environments incorporate the four concepts of the Science of Unitary Human Beings: (1) energy fields, (2) openness, (3) pattern, and (4) pandimensionality.

Rogers (1990) defined energy fields as the fundamental unit of the living and the nonliving. Field is a unifying concept, and energy signifies the dynamic nature of the field. Energy fields are infinite and exist without boundaries. In conceptualizing openness, Rogers (1990) postulated that the universe is one of open systems. Openness signifies continuous and innovative change where

causality is not an option. Pattern was defined as an abstraction which gives identity to the field. Each human field pattern is unique and is integral with its own unique environmental field pattern. The nature of the pattern changes continuously (Rogers, 1986). Rogers (1992) defined pandimensionality as: "a nonlinear domain without spatial or temporal attributes " (p 7). Pandimensionality encompasses the human and environmental fields.

The four concepts provide a base for the three homeodynamic principles under-pinning the Science of Unitary Human Beings: (1) resonancy, (2) integrality, and (3) helicy. These mutually exclusive principles state explicitly and concisely Rogers' ideas about the human and environmental field patterns. According to Rogers (1986) the key concept in the three principles is pattern; all three principles describe the pattern of unitary human beings as they evolve. The principle of resonancy is described as "the continuous change from lower to higher frequency wave patterns in human and environmental fields" (Rogers, 1990, p.8). Resonancy delineates evolutionary change in energy field patterns, both human and environmental. The principle of integrality is described as "the continuous mutual human field and environmental field process" (Rogers, 1990, p.8). Finally, the principle of helicy is defined as "the continuous, innovative, unpredictable increasing diversity of human and environmental field patterns characterized by nonrepeating rhythmicities" (Rogers, 1990, p.8). Helicy describes the nature of change and evolution.

The Concept of Integrated Awareness

The term "integrated awareness" does not appear as a unit in dictionaries. However, the individual words, "integrated" and "awareness," can be analyzed and then synthesized into a unitary construct. The word "integrated" stems from the root word integrate, which is defined in *The American Heritage Dictionary* (1985) as:

1. to make into a whole by bringing all parts together; unify.
2. to join with something else; unite. (p.667)

A related term, which also stems from the root word, "integrate," and also bears relevance to the definition of integrated, is the word "integral." Integral is defined in *The American Heritage Dictionary* (1985) as:

- 1 . essential or necessary for completeness; constituent.
2. possessing everything essential; en-tire.
3. a complete unit; whole. (p.667)

"Awareness" stems from the root word, "*aware*," which is defined in *The American Heritage Dictionary* (1985, p.145) as:

- 1 Having knowledge or cognizance 2.conscious; recognition of something sensed or felt.
3. knowing; either by perception or by means of information
4. cognizant; sure knowledge and the recognition of it.

Integrated awareness, as a unitary construct, is envisioned as a concept with direct relevance to the nature of human to human mutual process, a complex phenomenon of critical importance to well-being. Integrated awareness

is postulated to give a sense of unity, direction, and power to one's life.

A recurring theme, which is implied but not always explicitly stated throughout the literature related to the Science of Unitary Human Beings, is mutual process and its intimate relationship with human and environmental energy fields. Rogers has stated that pattern is a unifying manifestation of mutual process within human and environmental energy fields. She has suggested that inquiry be made into how to further illuminate the pattern inherent in mutual process (Personal Communication with Martha Rogers, Region 7 meetings of the *Society of Rogerian Scholars*, July, 1992). It is postulated that integrated awareness is the key to the pattern of mutual process. Mutual process entails an awareness of the creative processing of authentic power. Authentic power is present when one perceives meaningfulness and purpose in the events that occur in one's life (Zukav, 1989).

Integrated awareness involves the creation of a matrix in which one is cognizant of a heightened transcendence of self and environment, including living and nonliving entities as well as the potential for mutual process to occur. This potential *exists in all human beings, but may vary in the level of intensity and pattern manifestation*. Integrated awareness represents a dynamic, non-linear domain which is always present. The perception of manifestations of integrated awareness facilitates one in attending or listening to those human and environmental wave patterns that are meaningful. The perception of the moment of integration (mutual process) may be manifest as (1) a harmonious wave where the fields meet in a pattern of synchronicity, (2) a chaotic wave when fields meet in patterns of dissonance, or (3) where field wave patterns counterbalance to form a dampened wave form. Harmonious integrated awareness involves field patterns in which waves build on and complement each other and are increasingly high frequency and high amplitude (see figure 1). Integrated awareness may also exhibit a dissonance when energy fields meet in an asynchronous, chaotic or erratic pattern. This may be manifest as disharmony or field disconnection (see figure 2). Low intensity Integrated awareness can occur when counterbalancing field patterns meet and dampen each other (see figure 3). Low intensity integrated awareness does not negate that mutual process is occurring, but rather places the experience in a less recognizable con-text. While these vignettes of integrated awareness present three possible patterns, infinite pandimensional variations of these are possible.

Figure 1: Harmonious Energy

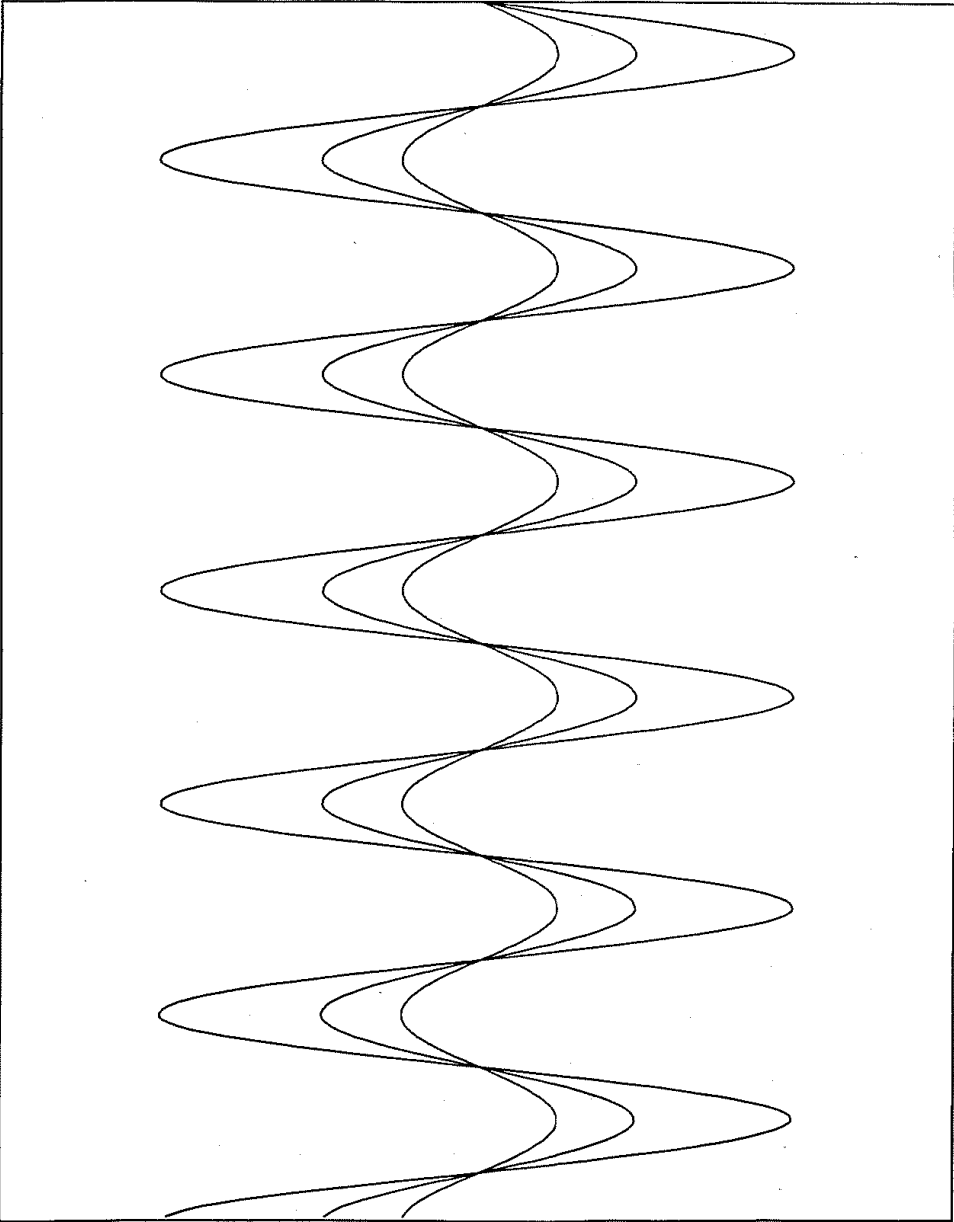


Figure 2: Dissonant Energy

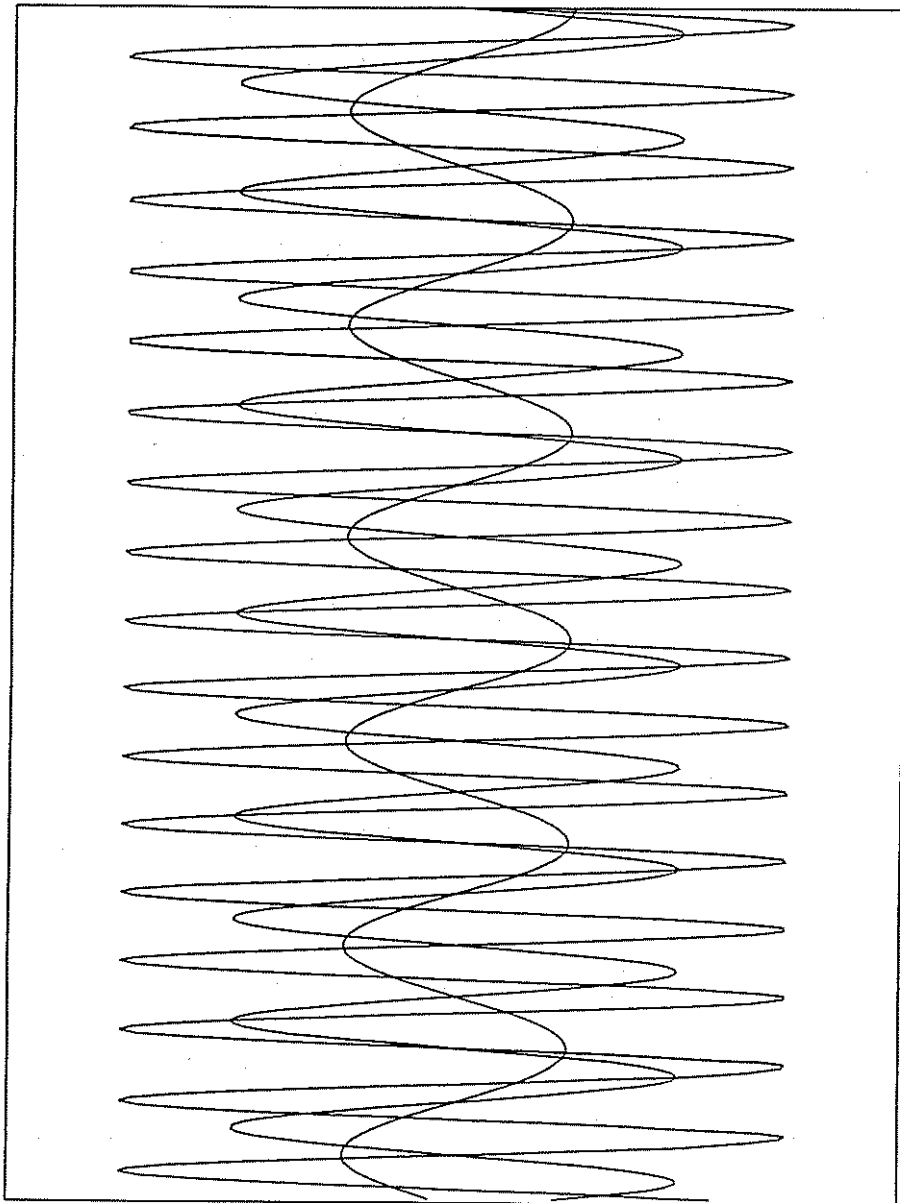
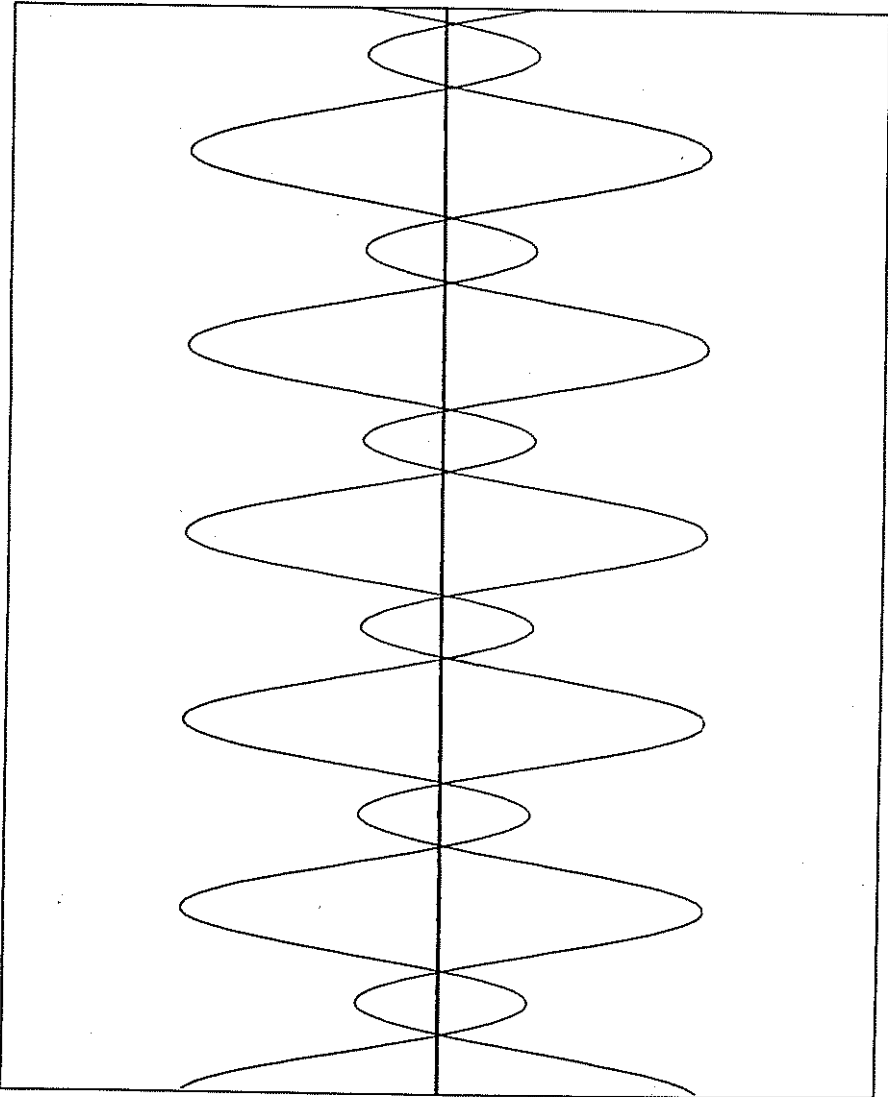


Figure 3: Dampened, Opposing Energy



Review of Related Literature

Science of Unitary Human Beings

Many of the concepts which are interspersed throughout the literature related to Rogers' Science of Unitary Human Beings express a commonality or relatedness to the concept of integrated awareness. These exemplars of Rogers' Science of Unitary Human Beings will be explored and their salience to integrated awareness will be elucidated.

Motion of energy fields. Ference (1986), investigating motion of the human field, postulated that the relationship of time experience, creativity, and differentiation were manifestations of human synergistic development and would be correlates of human field motion. She developed an instrument to measure human field motion in order to examine and support the principle of resonancy. The Human Field Motion Tool (HFMT) was specifically developed to measure motion as an index of human synergistic development and was the first tool re-ported in the literature that was solely developed as a measure in the Science of Unitary Human Beings. Findings from this study demonstrated a positive correlation between human synergistic development and human field motion.

Gueldner (1986) utilized the Human Field Motion Tool to study the relationship between imposed motion (rocking) and human field motion in elderly individuals living in nursing homes. She hypothesized that there would be a positive relationship between imposed motion and human field motion. She also hypothesized that there would be a positive relationship between perceived human field motion and the state of restedness in these individuals. Gueldner found no significant difference between those individuals who rocked versus those who did not rock; however, those individuals with higher human field motion scores re-ported feeling more rested. Testing difficulties in this population with Ference's Human Field Motion Tool prompted Gueldner (1993) to develop an alternative measure of motion of energy fields, the Index of Field Energy (IFE), that utilizes a pictorial semantic differential format. Thus visual metaphors are utilized to measure energy and motion of both human and environmental fields (Gueldner, 1993). Ference's HFMT as well as Gueldner's IFE, which attempts to measure energy characteristics of human and environmental fields, may well measure a phenomenon closely related to integrated awareness.

Both Gueldner and Ference studied a manifestation of pattern of the individual. Neither, however, addressed the manner in which patterns blend during mutual process between individuals, or between individuals and their larger environments. As the pattern of motion of an energy field changes, fluctuating in frequency and intensity, it is reasonable to hypothesize that the pattern of integrated awareness will also vary. Further investigation of the relationship between these patterns may prove quite fruitful.

Power. Barrett's (1983/84, 1986) concept of power as the ability to knowingly participate in change presents an-other related concept. Conceptualizing power within the Science of Unitary Human Beings, she studied the relationship of

human field motion and power. Attributes of power include awareness, choices, freedom to act intentionally, and involvement in creating changes. According to Barrett (1983/84), "awareness and freedom to act intentionally may be the knowing which guides participation in choices and involvement in creating changes in one's own field and one's environmental field" (p. 27). Barrett utilized her concept of power to develop The Power-As-Knowing-Participation-in-Change Test (PKPCT). In her investigation of the relationship of human field motion and power, she found a significant correlation between the variables and concluded that the ability to participate knowingly in change increases as human field motion evolves.

Bramlett (1990/1991, 1993) investigated the pattern of change in power in older adults after participating in reminiscence activity. She found significant increases in power over the study period in both control and experimental groups. While reminiscence was not confirmed as a therapeutic modality, Bramlett concluded that power was a dynamic phenomenon, capable of exhibiting changing patterns.

Both power and integrated awareness incorporate the idea of awareness. Furthermore, both are dynamic and constantly changing as individuals evolve. Power is concerned with the pattern manifestations of individuals or groups. While patterns of power are integral with unitary human field and demonstrate an evolving synchrony with these fields, power is a manifestation of the field and only indirectly reflects the ongoing mutual process of the individual or group and the environment. Integrated awareness is purported to more directly address the mutual process.

Motion and Power. Rapacz (1991/1992) investigated the nature of chronic pain as a manifestation of patterning of human and environmental energy fields. Utilizing Ference's Human Field Motion Tool and Barrett's Power as Knowing Participation in Change Test, Rapacz found that people experiencing chronic pain demonstrated significantly lower human field motion and power than their counterparts who were not experiencing pain. She concluded that individuals with chronic pain have significantly lower frequency patterns than those persons who do not have pain. Thus, Rapacz explored the concepts of both human field motion and power and their relationship to field pattern manifestations. While she investigated the relationship between two field pattern manifestations, Rapacz did not address the relationship between the individual and environmental field patterns.

Mystical/paranormal Experiences. In an investigation of the principle of helicy, Cowling (1983) studied the relationship of mystical experience, differentiation, and creativity in college students. Cowling conceptualized and operationalized these three variables as characteristics that composed the unitary construct of field pattern. He emphasized that the transcendent nature of mystical experience indicated the diversity of human field pattern. He further described mystical experience as "behavior phenomenologically described as transcendent perceptual experience" (Cowling, 1983, p.5). He concluded that a relationship did

exist between mystical experience, differentiation, and creativity in college students and thus supported the principle of helicy. Cowling (1986) further inferred that mystical experiences are also evidenced in other states which may be labeled as peak experiences, dreaming, meditation and near death experiences. Cowling (1986) emphasized that these experiences may occur in every-day life, and the potential they have for explaining human potential and field patterning have not been fully investigated.

McEvoy (1990) investigated the relationships among the experience of dying, the experience of paranormal events, and creativity in adults. In this study, she hypothesized that adults who are dying will experience more paranormal events and manifest more creativity than those adults who are not dying. She also hypothesized that adults who are dying would manifest an increase in paranormal events and creativity as the dying process proceeds. The findings of this longitudinal study indicated an increase in the incidence of paranormal experiences over time, yet no differences in creativity were seen. Paranormal experience is seen as a correlate of pandimensionality and is based on the principle of integrality.

These phenomena all suggest a process of heightened awareness which is deemed necessary in integrated awareness. Cowling and McEvoy both investigated mystical paranormal experiences as manifestations of individual pattern but did not address the pattern manifestations of mutual process. Integrated awareness is proposed to sometimes be perceived by the individual as having a mystical or paranormal quality reflecting the pattern of the mutual process of individuals and their environments. Thus, integrated awareness may have the potential to make the pattern inherent in mystical and peak experiences more recognizable.

Empathy. The concept of empathy, a term proposed to be closely related to integrated awareness, was presented by Alligood (1986). She investigated the relationship of creativity, actualization, and empathy in support of the principle of helicy. She postulated that creativity as innovative human field pattern and actualization as increasing diversity of human field pattern are associated with empathy. She defined empathy as "a human field pattern manifestation emerging from the mutual human being-environmental process" (p. 148) and considered it a field pattern manifestation of helicy. Alligood found a positive correlation between creativity and empathy as well as between actualization and empathy.

Thomas (1993), while working as a nurse practitioner to assess health promotion and disease prevention needs of clients, noticed that something unusual and unexplained was happening during her sessions. Both the nurse and the client sensed that the sessions were "life-changing experiences" (p.3) in that a sense of connectedness or continuous mutual process was occurring. In order to examine and delineate the pattern of this phenomenon, which she stated bore resemblance to the concept of empathy, she began a phenomenological investigation to explain why in some cases she felt that she and the client were

empathically related and sometimes not. Results suggested that an empathic relationship exists when the nurse centers and focuses her energies with mutual intention to foster the client's well-being. Thomas acknowledged that one encounter occurred in which an empathic relationship existed without the benefit of the nurse focusing her energies. Data also suggested that when the investigator did not focus or center her energies, or the client was experiencing anxiety, the likelihood of an empathic nurse-client relationship was reduced.

Thomas and Alligood both addressed the concept of empathy within a Rogerian framework. Alligood's (1986) findings would suggest that if a relationship between creativity, a manifestation of human diversity, and empathy exists, then integrated awareness may be mutually patterned with human diversity. Thomas also addressed the relationship between empathy and the nature of the mutual process. However, the pattern manifestations of mutual process remain vague and undefined. The development of the concept "integrated awareness" is an attempt to address this ambiguity.

Field Image. Phillips (1990, 1991) presented the concept of human field image (HFI) and used the word "interconnectedness" (i.e., bonding, attachment, love, *couvade*) as a manifestation of energy field perspectives. Johnston (1992, 1993a) expanded on the concept of HFI through the development of a scale using metaphors to measure human field image. Johnston (1993b) conceptualized field image as a "manifestation of the human and environmental patterning process which may be expressed as a perception of one's potential and an awareness of one's integrality" (p. 55). While viewing field image as a manifestation of human environmental field process, she interpreted this process in terms of the individual's perception of his or her own potential and integrality. Integrated awareness, which also addresses the pattern of mutual process, addresses the nature of the mutual process itself.

Time Perception. Paletta (1990) investigated the relationship of temporal experience to human time. Temporal experience was defined as "the continuous mutual process of the human field with the movement of events in the environmental fields" (p. 240). Time awareness is a human-environmental mutual process which is subjectively perceived as time "racing," time "dragging," or as "timelessness." Temporal and time awareness are a unique blend of rhythmic subjective experience and may vary in the context of change and relationships.

Rawnsley's (1986) early 1977 study of the principle of helicy investigated the relationship between the perception of time and the process of dying. Rawnsley concluded that increasing field complexity, a natural process of evolution, occurs at an accelerated rate during the process of dying and because of this, the perception of the passage of time does not differ significantly from older to younger dying persons. Both perceive the passage of time as occurring at an accelerated rate.

Paletta and Rawnsley both investigated the perception of time, conceptualized as a marker of increasing field complexity. Integrated

awareness may reflect the synchronicity of subjective experience (i.e. harmonious, chaotic, erratic) reflected in their conceptualizations of time. However, rather than addressing perception of a specific phenomenon such as time, integrated awareness addresses the actual pattern of the mutual process experienced by the individual.

Wave Pattern Perception. Numerous studies have been conducted within the Rogerian framework in order to investigate mutual process of the human and environmental fields. Most of these studies have reflected the relationship of the human field with light or wave patterns in the environment. McDonald (1986) conducted a study to determine the relationship between visible lightwaves and the experience of pain. She hypothesized that persons who were exposed to higher frequency (blue) visible lightwaves would experience less pain than those persons exposed to lower frequency (red) visible lightwaves. She further hypothesized that the longer exposures to blue lightwaves would yield greater likelihood of pain reduction. She reported that persons exposed to blue light experienced greater relief of pain, thus supporting the hypotheses.

Investigating the relationship between hyperactivity in children and perception of short wavelength light, Malinski (1986) hypothesized that hyperactive children would be able to visually perceive shorter wavelengths of light than their non-hyperactive counterparts and would also express preference for those shorter wavelengths. While noting a trend in the hypothesized direction, Malinski was unable to document statistically significant associations.

McDonald's use of light as wave patterns parallels conceptualization of integrated awareness as the mutual process of wave patterns presented herein. Further-more, Malinski's propositions regarding perception of wavelengths may be relevant in explicating the various manifestations of integrated awareness.

Other Literature

Intuition. Intuition is a phenomenon whereby knowledge is received in an immediate manner, perceived as a whole, and not arrived at through conscious linear processes (Rew, 1988); it allows us to experience the totality and underlying connections of pattern invisible to the senses. Rew has investigated the utility of intuition to guide the decision-making process of nurses. In-tuition and integrated awareness share a common theme in that they both involve a higher form of vision and a greater awareness of perception with meaningful intent. The intimate relationship between these phenomena presents a challenge to scholars for further inquiry.

Connected Knowing. Gilligan (1982) and Lyons (1983) used the terms separate and connected to describe two different conceptions or experiences of the self. Separate implies autonomy as in separate from

others. The separate self experiences relationships in terms of reciprocity and mastery over or doing unto others as they have done to you. The connected self experiences relationships as "response to others in their terms" (Lyons, 1983, p. 34). Integrated awareness differs from connected in that connection implies a mutuality with a specific or static phenomenon, whereas mutual process is a dynamic phenomenon. Furthermore, connection infers at least two bounded beings. Integrated awareness rejects the existence of boundaries and recognizes humans and environment as infinite, consistent with the assumptions underlying the Science of Unitary Human Beings.

Synchronicity. Synchronicity is a descriptive term used by the psychologist, Jung (1973), to describe the link between two events that are connected through their meaning, a link that cannot be explained by cause and effect. Synchronicity requires human participation, for it is a subjective experience in which the person gives meaning to coincidences. "Meaning" differentiates synchronicity from synchronous events (i.e., clocks chiming at the same time, airplanes departing or arriving at the same time). Synchronicity reflects on the subjective experience and subsequent meaning of coincidental events, whereas integrated awareness is focused on the mutual process that occurs during meaningful coincidences.

Summary.

Integrated awareness implies an abstract sense of connection or mystical transcendence wherein human and environmental energy fields evolve. It may be perceived as a unifying schema of inner peace, serenity, well-being, and power. However, it differs from the discussed concepts in that it addresses the pattern of the mutual process of individual and environment, including both other individuals and natural phenomena such as a sunset or a symphony.

Essential Attributes of Integrated Awareness

The concept of integrated awareness is an abstruse, complex, and pandimensional phenomenon. Based on a review of the literature and analysis of the concept, the following essential attributes are identified:

1. Authenticity - flows from the subjective experience of authentic power whereby one perceives meaningfulness and purpose in the patterns of one's life.
2. Transcendence - the perceptual nature of phenomena as independent of mere feeling or cognition.
3. Unity - perception of the self as an energy field, mutually exclusive from mind-body dualism and as integral with one's environment.

The following hypothetical cases will illustrate the essential attributes of integrated awareness.

Model Case.

A student *sits in a classroom awaiting* the guest speaker's arrival. When the guest speaker begins to lecture, the student's and the speaker's eyes meet. At that moment the student becomes aware that a mystical connection characterized by harmonizing of energy fields is occurring. The student knows that for whatever

reason the speaker has become an integral facet in her life. She resists the urge to go to the speaker after the class because she knows the pattern manifestations will emerge. The speaker notices the student and experiences a similar sensation that the student has become integral to her life. The memory and the perceptual meaning of the experience remains with them forever.

The situation demonstrates authenticity, as the student perceives the meaningfulness of the encounter. She is highly aware of the experience and the transcendent nature of the meeting. She perceives a sense of unity and mutual process with the speaker.

Borderline Case

Patients who have been triaged are waiting to be brought back to an emergency treatment area. A nurse steps into the waiting area to call the next patient back. The nurse sees a young woman, who is pale and waxen, sitting in a wheelchair. The nurse immediately goes to her because she senses that something potentially life-threatening is occurring with the young woman. Subsequently, it is discovered that the young woman has a ruptured ectopic pregnancy.

This situation describes intuition, a related concept, rather than integrated awareness. While intuition merged with knowledge and experience contributed to resolution of the situation, these should not be confused with integrated awareness. While awareness is present, the sense of unity and mutuality are absent.

Contrary Case

Thirty-seven people are crowded into a train car of a metropolitan area subway. People enter and exit in a continuous stream as the train stops. No one can remember or recall the other people on the train. They traveled in a day dream, unaware of the existence of the others.

In this situation, authenticity is absent so no meaning is perceived. Transcendence is absent, and there is no perceived unity or intent. Therefore, this situation exhibits none of the essential attributes of integrated awareness.

Antecedents and Consequences

At first thought, antecedents and consequences might appear to infer the existence of linearity and causality and thus would be incongruent with the Rogerian conceptual system. However, more careful consideration of these terms reveals their potential to describe recognizable patterns within the process of pandimensional sequencing. This sequencing does not necessarily infer linearity, but may explicate the sense of mutual process that integrated awareness is purported to address.

Empirical Referents

Empirical referents are "classes or categories of actual phenomena that by their existence or presence demonstrate the occurrence of the concept itself" (Walker & Avant, 1987, p. 43). Since Rogers first introduced her model in 1970, difficulties have arisen regarding the appropriate methodology for the empirical measurement of unitary constructs. The argument continues among nurse

scholars regarding the use of both quantitative and qualitative methodologies and the validity of collecting data by qualitative methods, then quantifying that data to give static meaning to that phenomenon (Carboni, 1992).

Although instruments purporting to measure unitary constructs within the Science of Unitary Human Beings have been developed or are evolving (Barrett, 1986; Carboni, 1992; Ference, 1986; Gueldner, 1993; Johnston, 1993; Paletta, 1990), none of these instruments measure integrated awareness. Phenomenological methodology may prove to be the most useful tool for exploration of the phenomenon of integrated awareness as a human experience. Qualitative exploration of the concept of integrated awareness utilizing phenomenological methodology may provide further insights that could facilitate the future development of appropriate measurement methodologies.

Research and Practice Implications

Research within the framework of the Science of Unitary Human Beings continues to evolve and expand. More recent research studies have focused on clarifying the abstract conceptual system, further delineating human field patterning, and on therapeutic modalities, which may enhance the knowledge and practice of nursing. Carboni (1992) developed an instrument called the Mutual Exploration of the Human Field Environmental Field Relationship Tool, which is used to measure the unitary field pattern. The importance of this tool is that it allows for the open expression of human pattern in a holistic context. Butcher and Parker (1988) have explored the use of pleasant guided imagery as a relaxation technique nurses can utilize to assist patients in coping with stress and anxiety. Therapeutic Touch is a healing technique that dates back for centuries. It was developed for use as a nursing practice modality by Kreiger (1975) and has received increasing attention by nursing re-searchers (Heidt, 1981; Meehan, 1985; Quinn, 1984, 1989). Heidt (1981) and Quinn (1983) both investigated the relationship between Therapeutic Touch and anxiety and found that subjects experiencing Therapeutic Touch had decreased levels of anxiety. As anxiety is perceived to be a dissonant state, an investigation into the relationship of integrated awareness, Therapeutic Touch, and anxiety may be worthy of consideration. Heidt (1994) has further investigated Therapeutic Touch by conducting a grounded theory analysis of nurses' and patients' experiences of Therapeutic Touch. She identified categories of experience including: opening intent, opening sensitivity, and opening communication. As Therapeutic Touch is based on mutuality of energy fields, the congruence of these categories of experience with integrated awareness may serve as an area for further investigation.

Time perception presents a fruitful area for future research. In an extension of Rawnsley's (1986) work, a relationship between integrated awareness and the perception of the dying process may be worthy of investigation. With the increasing field complexity accompanying the dying process, does the pattern of integrated awareness also change?

Research examining the relationship between motion of energy fields

and integrated awareness may also prove beneficial. Also, the relationship between intimacy, a potential contributor to quality of life (Seagraves, Bramlett, Gueldner, Moneyham & Guillory, 1993), and integrated awareness is worthy of investigation. Of course, all research on integrated awareness must first be predicated on further development of the concept through research, both qualitative and quantitative, that more fully illuminates the nuances of this evolving concept.

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Integrated Awareness: A Commentary Fifteen Years Later
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It was a thrill to be invited to provide a commentary on Phillips and Bramlett's article, "Integrated Awareness: A Key to the Pattern of Mutual Process," which first appeared in Volume 2 of *Visions*. First, a disclaimer: I have never conducted research within the framework of the Science of Unitary Human Beings and I am not steeped in recent Rogerian research. But having studied with Dr. Rogers in the 1970s I have been profoundly, and I believe positively, influenced by that experience ever since. Moreover I am directly involved in various complementary and alternative modalities of healing and I can speak to exciting broad developments in at least Americans' world view that bear on the discipline of nursing from 1994, when they wrote the article, to now.



The postmodern shift continues. It was still the case when I was a graduate student in the 1970s and early 1980s that we spoke in terms of grand theories that could explain a whole discipline or even the totality of knowledge. It was the trend for nursing scholars to debate which conceptual framework should define the discipline of nursing, and Fawcett (1984) soon thereafter argued for what she termed the metaparadigm of nursing, the formalization as nursing's central disciplinary concepts person, health, nursing and environment. During my years in graduate school debates raged as to whether research "should" be inductive or deductive; whether or not knowledge could legitimately be borrowed from one discipline by another; and whether or not qualitative research methods were acceptable. Then, in the 1990s, these issues seemed to melt away. While it was true that the discipline was maturing, there had to be more going on. What happened?

One explanation that I share with my own graduate students is that the health professions were finally forced to acknowledge, if not embrace, the postmodern shift in world view that was first identified in the arts and humanities. Modernity, an era whose beginning can loosely be marked by the invention of the printing press, was characterized by such hallmarks as confidence in large bureaucratic structures, the embrace of capitalism as an economic system that would alleviate suffering on a large scale, the belief that democracy is a system that all nations should embrace, the industrialization of production as well as human services, the primacy of science and rationality, and the quest for a unified theory of knowledge.

The middle and later portion of the twentieth century brought major challenges to those broad-based assumptions of western culture. Examples are numerous, but some prominent ones include the Nazi holocaust that demonstrated

that science and engineering are not value-free. The development of socially progressive governments in Western Europe that provided high standards of living to their populations led to questioning of other economic and political systems. The sun set on the British Empire as former colonies of long-standing became independent states. The Viet Nam war generated harsh criticism of the United States and the idea that American-style democracy could be exported. The Watergate scandal led Americans to question the benevolence of our government. The Civil Rights movement made people aware that there are numerous other perspectives on historic events than those of the dominant demographic in a given population. The critique of received wisdom and appreciation of relativism were ascendant.

What happened in the discipline of nursing with these changes? At least in the United States, value on the lived experiences of disparate segments of the population and non-western cultures particularly with regard to their health practices has grown over the past twenty years. Recognition of the failures of the United States' health system has occurred concurrently with growth in attention given to other ways of describing phenomena central to our discipline, including for example traditional Asian perspectives on health and illness. Nursing scholars have focused increasingly on examining other ways to promote healing and health, including health care delivery systems of other countries as well as complementary and alternative modalities of healing. The appreciation of relativism has grown concurrently with recognition that research designs that attended to individuals' stories have validity, and so nursing has seen tremendous growth in the use of qualitative research designs to describe previously ignored human experiences over the past twenty years.

Consciousness. What Phillips and Bramlett define as integrated awareness, many other sciences refer to as consciousness. In 2007 Princeton University announced the closing of its Princeton Engineering Anomalies Research (PEAR) program, which functioned for three decades under the aegis of the School of Engineering and Applied Science. With funding from the Department of Defense over the years of its existence, the PEAR program engaged in research on the interaction of human consciousness with physical devices, systems and processes. Still in business, the laboratory is now incorporated as a separate non-profit institution. Physicists have been attracted to explore issues of consciousness as characteristic of subatomic structures, the energy of consciousness, and the power of intention (Walker, 2000).

Synchronously with the ascendance of the postmodern paradigm in science, nursing and other health professions have paid increasing attention to the value of intentionality in health and illness. In the 1990s academic medical centers, for example Memorial Sloan-Kettering Cancer Center and the Harvard University School of Medicine provided leadership in adding departments of integrative medicine or mind-body medicine. At Harvard, Herbert Benson came into his work in mind-body medicine over the past thirty years from a background in cardiology with an interest in hypertension. Since that time contemplative healing modalities including prayer, energetic modes of healing, yoga and other breath and body work have grown in interest in health care practice and across various scientific disciplines.

Holism. It is interesting to reflect on how in the 1960s and 1970s the various conceptual frameworks in the discipline of nursing that competed for champions had in common a focus on the human being as an integrated and open system, interacting with other open systems within yet larger open systems. I recognize that the language is three-dimensional; but it is exactly my point that the major nursing theorists at the time besides Martha Rogers were aware of and trying to describe this essential fact. In recent years I have asked graduate students to consider what might have given rise to this interest at the time. One possible explanatory relationship is the coincidence of nurse theorists' awareness that human beings are open systems within larger open systems with the emergence of the field of cybernetics, an interdisciplinary field that emerged in the 1940s from, among other fields, engineering, logic, psychology, neuroscience, anthropology, and which is closely related to game theory and system theory. We know this field now as the study artificial intelligence. The late American quantum physicist David Bohm, whose career spanned The University of California at Berkeley, Princeton's Institute of Advanced Studies, and finally, Birkbeck College at the University of London, made an enormous contribution to wider understanding of the fundamental need to consider entities in their entirety; the concept that time and space do not really separate events or entities; and the realization that reality and thought are not distinctly separate.

These three issues, the postmodern shift, consciousness, and holism, are themselves integrally related. A postmodern paradigm recognizes that reality is perspectival; each person's reality is a valid experience and ultimate truth must take all perspectives into account. Perspective presumes consciousness and is a holistic manifestation. My proposal that these concepts have gained wide acceptance at least in America is substantiated by the popularity of two recent films that I strongly recommend to readers who may not have seen them: "What the Bleep do We Know," released in 2004, and "The Peaceful Warrior," released in 2006. "What the Bleep Do We Know" is the exploration of the intersection of quantum physics, neurology, molecular biology, spirituality and metaphysics through a fanciful story, while "The Peaceful Warrior," released in 2006, is the true story of Olympic-bound gymnast Dan Millman's recovery from a paralyzing injury after a stranger whom he meets working the night shift as a gas station attendant teaches him how to tap into his intentionality and energy.

As I admitted in the beginning, I am not a Rogerian scholar. But as a former student of Rogers, I believe that both of these films convey far better than any of us could have dreamed in 1994 how the concept of integrated awareness can manifest in our lives. I find the distance we have come from 1994 to now in our understanding of this and other related concepts and in public awareness of these ideas to be no less than thrilling. We do live in a world of infinite possibilities and we do have the power to contribute to creating our realities. Barbara Brinkley Phillips and Martha Hains Bramlett must be pleased.

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FOCUSING AWARENESS: THE PROCESS OF EXTRAORDINARY HEALING FROM A ROGERIAN PERSPECTIVE

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ABSTRACT

Using qualitative research methods, a four stage model was developed to describe and explain the process of extraordinary healing for three individuals. While current research in psychoneuroimmunology was helpful in understanding the physical recovery, it could not explain the entire healing process. The Rogerian perspective, particularly power as knowing participation in change and recent work on spirituality, had greater utility in explaining the process of ever increasing frequency patterning as described by the participants.

Key Words Focused awareness, Rogerian nursing science, Extraordinary healing, Power, Spirituality

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Reports of extraordinary healing appear both in the medical literature and in the popular press. In the medical literature, they are generally called "spontaneous remissions" and are not uncommon. In a search of the literature, O'Regan found approximately 3500 references to spontaneous remissions (Dreber & McNeill, 1993). From these, O'Regan and Hirshberg (1993) compiled a list of 1385 citations appearing in reputable medical journals between 1865 and 1989. Between 1950 and 1989, the number had been steadily rising and comprises 81 % of the total number of citations. Of the 1385 citations, 1051 referred to cancers, and 334 referred to other types of diseases. Many of these citations refer to more than one patient. Spontaneous remissions may be more prevalent than previously thought, but may remain under-reported and unmeasured (O'Regan & Hirshberg, 1993). O'Regan and Hirshberg (1993, p. 2) define a spontaneous remission as "The disappearance, complete or incomplete, of a disease or cancer without medical treatment that is considered adequate to produce the resulting disappearance of the disease symptom or tumor." According to O'Regan and Hirshberg (1993) a recent survey of individuals using alternatives in conjunction with traditional treatment "suggests that as many as 10% of them undergo 'spontaneous' remissions, though the causes of these are so far unstudied" (p. 3).

Most reports in the popular literature are anecdotal. For example, Cousins (1979, 1983) reported developing a successful self-healing program for a painful and debilitating connective tissue disease and for a severe heart attack. In both

cases, the reported level of recovery far exceeded medical expectations. Melton's (1988) recovery from the devastating effects of AIDS and Bloc's (1989) recovery from a spinal fracture that should have left him paralyzed are two other examples of "miracles" where the individual embarked on a program of self-healing. Instances like these have led to speculations about a mind-body connection in healing where the power of the mind along with emotions and beliefs plays a considerable role in healing the physical body.

Psychoneuroimmunology (PNI), the study of the biochemistry of mind-body interactions, is a very mechanistic view but does give some clues useful in understanding how a mind-body connection might work. In what have become classic experimental studies, Laudenslanger, Ryan, Dugan, Hyson and Maier (1983) found that inescapable stress but not escapable stress depressed the immune system as measured by lymphocyte proliferation (ability to divide and grow in the face of mitogens) and cytotoxicity (ability to destroy infected cells) in rats. Similarly Sklar and Anisman (1979) found that inescapable but not escapable stress was associated with tumors that appeared earlier and grew faster in mice. Millar, Thomas, Pacheco and Rollwagon (1993) found that avoiding stress may significantly enhance lymphocyte proliferation above normal in rats. In humans, stress, whether experimentally induced (Kiecolt-Glaser et al., 1993; Strauman, Lemieux & Coe 1993) or naturally occurring (Kiecolt-Glaser, et al., 1984; Kiecolt-Glaser, et al., 1987) has been associated with immunosuppression. Additionally, perception of control over stress, whether real or imagined, can protect against immunosuppression (Sieber et al., 1992). Within the mechanistic view, neuropeptides are thought to be responsible for the enhancement or suppression of the immune system. In addition, these chemical modulators which swim throughout the body provide the communication network whereby any organ or system can communicate directly with any other organ or system (Pert, 1993). There is, however, a problem with considering these systems to be mechanistic and separate. The communications between them seem to be simultaneous. Neuropeptides require time to travel from one separate area to another. Therefore, Pert (1993) believes some form of undiscovered "enlivening" (p. 189) energy must account for the spontaneous nature of the communications and changes throughout the body.

The Rogerian framework provides an explanation for the apparent unity of communications within the body. Within this framework the "fundamental unit" is the *energy field* (Rogers, 1986, p. 4), *which is* open and continuous. Therefore, changes would occur within the entire field, not within one system at a time.

According to Rogers (1986, 1992), the distinguishing characteristic of the field is the pattern. Pattern is an abstraction that gives identity to the field. The pattern cannot be seen or measured. Manifestations of that pattern can be seen. Illness and emotional upset are pattern manifestations. Because symptoms are manifestations of field pattern, changes in symptoms indicate changes in field pattern. Similarly, changes observed in immune function would be a manifestation

of field pattern change. From a Rogerian perspective, it would not be a change in the nature of stress from escapable to inescapable that lowered immunity, rather a change in human field pattern manifested as both the perception of inescapable stress and lowered immunity. The two happen simultaneously, as has been observed in the study of PNI.

Methodology

Requests were placed in journals for brief accounts of spontaneous remissions or of healing which could not be explained by medical treatment received. From the 37 accounts received, three participants were chosen based in part on their use of different alternative therapies. This lessened the chance that belief systems associated with one particular alternative would influence the final analysis. Participants were also chosen to maximize differences between illnesses. In addition, each participant identified one friend who was close to them at the time of the remission and who was willing to be interviewed. Interestingly, each of these three friends had accounts of their own spontaneous remissions, which added to the data. Medical verification of the unexplained nature of the recovery was obtained from copies of medical records and/or from the physicians involved. In each instance a second physician unknown to the participant confirmed that the reported recovery was not possible by medical standards.

All three participants were interviewed between four and five times for more than two hours each over a two year period to explore the process involved in their healing. Human protection standards were followed and pseudonyms were used.

Taped interviews were transcribed verbatim into logs. The constant comparative method (Glaser & Strauss, 1967) was used for data analysis. Initially each account was analyzed individually to maintain the integrity of the experience. First the process overtime was delineated. Then each step or stage in the process was analyzed using Strauss and Corbin's (1990) axial coding procedures. Once the three accounts were analyzed, they were compared and a four stage model emerged. Again Strauss and Corbin's (1990) axial coding paradigm was used as constant comparisons were made between participants. Throughout the entire process negative cases, or instances that did not agree with the emerging analysis, were sought in the log material and in accounts obtained from the popular press. If found, the analysis was changed accordingly.

Lincoln and Guba's (1985) standards of trustworthiness were applied. Each participant reviewed her own account as well as the final four stage model. Comments were favorable. One participant said it was a "great job in sorting all this information and putting it in some order." In addition, an auditor familiar with the Rogerian framework conducted an audit and found "the method was clear, the decision trail could be followed, and methodological decisions were appropriate."

The Participants

At age 38 Maggie was struggling with a failing marriage and within weeks of leaving her home developed pneumonia and painful abdominal cramps. She was told she would require an immediate partial hysterectomy for uterine fibroids. She states she was given no choice by her physician, and this created further turmoil.

She sought second and third opinions before she was able to find a physician who would help her minimize the risk of refusing surgery as she pursued acupuncture and Chinese herbals. After 6 weeks, she had another sonogram and was told there was no change in the fibroids. Because she "could feel-could tell something was going on" and had an "inner voice that said, 'This is working,'" she ordered the actual reports and found the fibroids had, indeed, begun to shrink. She continued the acupuncture and herbs. Her medical record from 2 years later confirms that the fibroids are gone.

In her early 20's, Milagros suffered several crippling back injuries resulting in two laminectomies. She was in constant pain and unable to hold her own children when she saw a psychic in 1975. She was told to heal herself, prayed that night, and reports she awoke pain free the next morning. (Unfortunately this incident was too old to verify.) In 1991 she was visiting her terminally ill father, which, she felt, reawakened old childhood patterns of rejection by her family. At the same time, the back pain recurred, eventually becoming severe enough to paralyze her. Her MRI from that period confirms extensive stenosis and scarring which would normally be associated with pain and extensive loss of function. She was taken to an emergency room where she reports she suffered further injury at the hands of "uncaring" physicians. Because medicine had no treatments to offer her, she turned back to the many alternatives she had been using including diet, chiropractics, and a form of kinesiology called "brain mapping." By 1993 she had regained function and was pain free.

Rebecca was diagnosed with Hashimoto's hypothyroid in 1989. Despite a clear family history, Rebecca believed the condition was associated not with genetics, but with feelings of abandonment and unrecognized anger as all her friends had recently moved away. Because her symptoms were so severe and the risks of forgoing medical treatment so great, she elected to go on medication for a year while she pursued homeopathy. At the end of the year, she convinced her physician to "partner" with her by reducing the amount of medication slowly over three months and taking frequent blood tests. She was able to get herself off all medication, and her thyroid function remained normal four years later.

Findings: The Four-Stage Model

From the process as described by these three participants, a four stage model was derived to help explain the physical recovery. Central to the process as de-scribed by the participants is the concept of *focusing awareness*, of becoming increasingly aware and using that awareness to make decisions and to participate more fully in the healing process.

As with any staged model, it should not be implied that the process was an orderly progression from one stage to the next. Indeed, the participants did evolve through the stages described here,

but that evolution involved cycling between stages throughout the entire process.

Stage I: Rejecting the Medical Approach

At this point in the process, the participants' awareness was primarily focused on their illness symptoms, whether fever, pain, paralysis, excessive tiredness, or memory loss. These symptoms engendered fear. Physicians engendered more fear by either reporting there was no medical course of action available to help them, or by proposing an approach which felt invasive, and, in the participants' view, did not get at the root of the problem. The participants felt trapped because they were given no choice and were told the medical solution was the only possible approach. Maggie reported her interactions with medicine felt "closed," like "there was no room *for* anything else."

In addition, all three participants re-ported that their lives felt "blocked." Maggie was struggling with a failing marriage and an unrewarding career. She expressed it as "not getting the support I needed" to participate fully in all areas of her life. While visiting her terminally ill father, Milagros reported old feelings of "rejection" reawakening "blocks" originating in child-hood. Rebecca reported unacknowledged feelings of "abandonment" as all her close friends moved away during the year before her symptoms started.

Anger was the strategy whereby the participants were able to break free of the fear and find the energy to reject the medical treatment proposed. Maggie said,

There is a time in dealing with my anger when I let it escalate and I built a foundation to dig my heels in. If it was just fear, it would be so petrifying and disabling. Anger is also, but there is more energy with it.

Milagros echoed this thought, "Get me angry! I need it to prompt me into action when I am afraid." Rebecca agreed: "That [anger] is what caused my rebellion, more than anything. That was like lighting a fire under me. You could not have gotten me to work faster, to go against what I had been told. "

The anger, as displayed by these participants, was assertive, defiant and focused outward, not generalized or *focused* inward. It gave them the impetus to action-the impetus to become involved in their own healing and their own lives.

Stage II: Deciding to Find an Alternative

In contrast to the medical approach which only addressed the physical symptoms, the participants believed alternatives promised to address the whole person and get at the emotional root of the illness. Perhaps more importantly, alternatives gave them choices not only in how they viewed their illness, but in how they participated in the healing.

All three participants had exposure to alternatives prior to the illness. Maggie had been taking and teaching workshops on "new age" philosophies. Milagros had used alternative therapies for many years in order to maintain the level of functioning gained after the first healing. Rebecca, too, had attended workshops on meditation, as well as watched a good friend wean her son off asthma medications primarily by changing his diet. This exposure to alternatives gave them a different awareness about illness and healing. They each believed they would be able to "cure" the problem and prevent its return.

They did not limit their awareness to alternatives, however. They considered the seriousness of the medical condition and actively sought ways to decrease the risks while choosing to pursue alternatives. Maggie agreed to obtain another sonogram 6 weeks after beginning acupuncture to verify that the fibroids were, indeed, shrinking. Milagros returned to her chiropractor who monitored her condition. She also sought the advice of a neurologist to interpret the MRI. Rebecca gradually reduced her thyroid medication as her physician monitored her blood levels to be sure her natural thyroid function was working normally.

As they focused their awareness on both the problem and the options or choices open to them, they noticed that more subtle body sensations changed depending on what they were considering. When considering the medical approach, they felt closed and trapped, but when considering the alternative they felt open and free. Focusing awareness on their bodies' physical and emotional reactions in this way opened a whole new world, and they began to explore new ways of making decisions—new ways of choosing how to participate in their lives. By focusing awareness on the subtle clues of the body, they would come to believe that one course of action or another was better. This belief gave them the freedom to make the choice and to participate.

Stage III: Choosing the Right Therapy

Given all the possible therapies to try, it was somewhat surprising that both Maggie and Rebecca found the "correct" alternative as quickly as they did. It could be coincidence, that any alternative would have worked, or that information was available from outside their bodies. Rebecca said the theory of homeopathy "just resonated with me, the whole theory."

On a gut level, on a feeling level, having absolutely no rational explanation whatsoever, it was sort of like going, "Ahhhhh." (Here it is almost like a sigh of relief combined with wonderment.) Almost an experience from someplace inside of me, "I know this is right," and I know it from some other time. It comes from my intuitive level. From the spiritual perspective, if we, are all one mind and one part of one great consciousness, then we, in fact, have the ability to tap into that universal pool of knowledge at any time.

Rebecca reports her only contact with homeopathy had been years before, when she had a cat treated successfully by homeopathy. She had not tried it herself and, therefore, had observed but not personally experienced homeopathic treatments.

Maggie reported a similar experience during fever states when she was trying to decide what she should do.

This is going to sound strange, but there was an altered consciousness' that happened. And there was the pain. The pain got terrible. I got really burning up. I sensed the altered consciousness. I really can't explain, but I somehow got support, some kind of spiritual support.

Milagros spoke about a state in which you "just know" something is true. "Just knowing" is "a sense of familiarity on a feeling level, and on a conceptual level." For Milagros this sense of "just knowing" came from a deep inner level. She said, "So to me it is really that this is the submerged knowledge and information that is surfacing. As it surfaces it is new to the conscious mind, only! But the rest of me is going, "It is about time."

Fully developed focused awareness means awareness on all levels and was the process whereby the participants chose their alternative therapies. Fully developed focused awareness means awareness of the physical, of symptoms as obvious as pain or as subtle as "gut reactions." It means awareness of the emotional and that fear or "anger fare] not to be discounted" as Maggie said. It means harmony on the conceptual level. Does the information make sense conceptually or intellectually? When all these awarenesses are focused together and one choice "feels right" then the participants felt free to act intentionally because they trusted their choice.

Stage IV: Active and Involved Participation

For all three participants, healing was not something just considered on visits to alternative practitioners or just at designated periods during the day. It became a lifestyle. What one ate, and what one thought about eating, were part of the healing process. Milagros turned to macrobiotics to further cleanse the harmful toxins she believed contributed to the pain. Maggie discovered that her pain returned after eating lunch, but not after breakfast, which consisted entirely of fruits. Her friend suggested maybe her body only wanted fruits for the moment, and she went on a week long fruit diet. She reports the pain never returned.

In addition, how one interacted with others, and how one interacted with one-self, were all considered as lessons in healing as well as methods to heal oneself. Maggie reported she stopped looking to others for support and began relying more on herself. She said, "I was treating myself differently. I started listening to myself more." She termed this process, "standing in my own power" and said, "The biggest thing I learned was to pay attention to myself." Milagros reported her physical recovery started when she acknowledged her own ability to heal herself and worked toward that end.

As part of the participatory process, anything considered to be harmful to the healing was eliminated, including relationships and jobs. Anything helpful was pursued, including knowledge, supportive relationships and less stressful lifestyles. Maggie first stopped communicating with her unsupportive husband. Eventually she would divorce him. Instead she turned to a supportive friend who

believed that Maggie could heal herself. While Milagros's husband was in agreement with her decision to pursue alternatives, his emotional resources were limited as he was also involved with his ailing father. Both he and Milagros report he was not a very good caregiver. She says he would often just turn his back on her pain and "that became a very stress producing situation." Milagros, too, turned to friends better able to meet her needs. Eventually, however, she would teach her husband to give the support she needed. Additionally, both Rebecca and Maggie left jobs which they felt did not support them as people in order to pursue healing full time.

Situations and events were examined as possible lessons in healing which was considered a 24 hour a day, 7 day a week participatory process. Maggie returned to school to study Human and Organizational Development:

I would study and cry. I would see things I did were in direct opposition to what I truly wanted. I wanted a more humanistic workplace, but I saw how I contributed to it not being humanistic.

Milagros, who worked full time as a psychic, examined what she was telling others in relationship to her own healing.

For the three participants in this study greater awareness of the spiritual realm was also a part of the healing process. As they actively participated in the process, they also found greater meaning and purpose to their lives. Greater meaning was often experienced as "connecting" with some-thing beyond, or feeling support of a spiritual nature.

Milagros probably had the most experience with "connecting" to a spiritual source. Phrases like "generated by the universe," and "feel a connection with the whole universe," describe the experience of being aware of the spiritual. She said, "When I am *aware of myself* as more of a soul or an energy, I have a lot more energy and *power* and I can direct the healing a lot better."

For Maggie, "connecting" meant be-coming aware of spiritual help, of help from somewhere outside herself. She says, "I somehow got some sort of spiritual sup-port." She spoke about "spiritual knowledge that we all receive but don't often use." Spiritual knowledge is:

The quietest part of us. It is like nature. It is like walking in the woods, and standing by a tree and listening to the tree. It is not that I hear anything. It is more I feel things.

Rebecca considered her spiritual journey at least as important as her physical healing. For her, spirituality manifested as "the ability to tap into that universal pool of knowledge at any time," and was experienced as "quiet in the Temple." "This is where you are closest to God. This is where you are the closest to what you really are and where you came from."

For all three, focused listening was the clearest and most

accurate in this spiritual realm. Rebecca explained that in this spiritual realm, "My intuitive voice is extremely clear. It is so quiet that what I need to hear, I hear all the time." For Milagros "there is a knowing" in this spiritual realm where "it all felt familiar." Maggie termed focused listening "mulling" and said, "Some-how this mulling comes up with other things, like other ways to see things." This, she said, happens "in the quietest part of us" which is "very centered and balanced."

Awareness and focusing that awareness on the spiritual were the final steps in a process of increasing awareness coupled with increasing participation in the process. As each participant spoke about the process of healing evolving through the four stages, they described a process of increasingly focused awareness. They described a process whereby the symptoms taught them to focus their awareness. Having become increasingly aware of the physical body-the symptoms, they would focus awareness on the emotional, then the spiritual. At the same time, the nature of their participation changed, and they became more actively involved in their healing and in their lives. This increasing involvement in the process was considered the "true healing" by the participants.

Discussion: The Rogerian Perspective

While the more mechanistic view, PNI, could provide some explanations for the recoveries, many questions were left unanswered. It was discovered that the Rogerian framework had great explanatory power when applied to what these three extraordinary women had done. From the Rogerian perspective, the process could be conceptualized as an evolutionary one to-ward higher frequency patterning.

Barrett's (1983) concept of power as "knowing participation in change" provided the most accurate description of what these three women had done. She says, "Knowing participation is awareness of what one is choosing to do, feeling free to do it, and doing it intentionally" (p. 104). Greater power is higher frequency patterning (Barrett, 1983).

During the first stage of the process as depicted by this model, the participants reported that their energy was "blocked" and "closed." From a Rogerian perspective, energy fields and flow would not be blocked or closed. The experience of lower frequency patterning might, however, manifest as the feeling of "blocked" and "closed" as reported by these participants. Patterning which manifested as feeling blocked was evident in the women's descriptions of their life situations at the time they became ill. They felt trapped by circumstances and, at least at that moment, felt they could not participate in changing them. They also felt trapped by the physician's response to their problems. Maggie commented that when she spoke with her diagnosing physician, "It felt

like there was no room for anything else."

From a mechanistic point of view, feeling trapped (inescapable stress) leads to immunosuppression and decreased ability to heal. From a Rogerian perspective, the depressed immune system and the feeling of "trapped" would be manifestations of a field pattern. It is not that one "causes" the other. Rather, they are both manifestations associated with a particular energy pattern.

At this point, perceived awareness seems to have been limited. Initially, the participants reported focusing awareness on the symptoms of both the illness and the emotional problems they were facing. They were aware that they felt trapped but were not aware of choices which might be available to them. They were not participating fully. It was the diagnosis and proposed medical course that provided the impetus to participate more fully and more powerfully in their own lives.

While considering the medical recommendations and their life circumstances felt like being "trapped," considering an alternative therapy felt more "open." The participants report that the alternative promised to address not only the illness, but the emotional problems they perceived as part of the medical condition. They now had a way to escape the stresses of the illness and their lives. From a mechanistic point of view, feeling that stress was now escapable would have enhanced immune function.

From a Rogerian perspective, however, both enhanced immunity and the feeling of openness may be pattern manifestations associated with higher frequency patterning. Certainly, descriptions of their lives during this second stage in the process suggest that higher frequency patterning may have been present. Barrett (1983) suggests that greater power, greater participation in change, is a higher frequency pattern. At this point, the participants reported increasing awareness, choices and involvement in change, all associated in Barrett's model with greater power.

During this second stage, the participants' awareness expanded to note that more pleasant body sensations and emotions were associated with considering alternatives. They focused their awareness on these pleasant feelings. Phrases like "just felt right" and "gut reactions" were used to describe this newly discovered ability of the body to communicate through feelings and emotions. Having become aware of the sensations and the messages they felt were contained in them, the participants report they realized they had choices. The first choice was to pursue the alternative. Another choice was to eliminate jobs or relationships that were associated with feelings of "closed" and trapped." They began to actively participate by pursuing their own choices.

With the third stage, choosing the right therapy, the experience

as presented by the participants became more paranormal in nature. The theory of the emergence of paranormal phenomena (Rogers, 1980) "suggests that experiences normally labeled paranormal are manifestations of the changing diversity and innovation of field patterning (Malinski, 1993, p. 51)" and are higher frequency patterns.

During the third stage all three reported having access to knowledge which they felt could not have come from within themselves. Maggie reports "spiritual guidance" in her decisions. Milagros reports knowing things "my petty mind" could not. Rebecca reports receiving knowledge that came from "some other time." Indeed, Maggie had no personal experience with acupuncture at the time she decided to pursue it. Milagros reported an ongoing process of accepting one form of alternative while rejecting another based on information which would not have been available from personal experience. Similarly, Rebecca had not personally experienced homeopathy, yet was sure it would work.

PNI can theoretically explain how one might intuitively "know" something based on personal experience. Neuropeptides swimming about in the body transmit information from one part of the body to another. It is believed this information is carried between all systems in the body, including the subconscious mind (Pert, 1993). Therefore, the subconscious could have knowledge of disease states before they are diagnosed. The subconscious mind could also have knowledge about whether a particular treatment was working. This might explain why Maggie "just knew" the acupuncture "was working."

Neuropeptides, however, cannot explain the perception of "knowledge" not already contained within the body, not known through previous experiences. The participants suggested that their choice of alternatives was, in part, based on information they had not yet experienced. Within the Rogerian view, they would not have had to experience the alternative on a physical level to know whether it was right for them. The wave pattern associated with the particular alternative would have been available to them because the human field and environmental field are one open field. Simply by becoming aware, they would have access to this information in the environmental field. Increasingly focusing awareness on the environmental field was a part of the healing process reported by the participants.

During the fourth stage, active and involved participation, higher frequency patterns became more predominant in all aspects of the participants' life. All three spoke about discovering choices in how they dealt with the "trapped" feelings they were experiencing in their lives, and about connecting with the spiritual. For them, becoming aware of the spiritual was part of the true healing.

For Maggie, awareness of a field pattern that manifested as anger gave her choices in how she participated in the world. She chose to participate by relying on her-self and by manifesting support within her-self, rather than expecting support to be in the environment. She participated in changing her field pattern by finding her true self, "standing in [her] own power," and by living her "vision" of how she wanted to be in the world.

Similarly, Rebecca's growing awareness of a field pattern manifesting as "fear of disappearing if I am not acknowledged" led her to choose to acknowledge herself by discovering who she was. This involved patterning her field with higher frequency patterns by becoming aware her own core self which she experienced as "quiet in the Temple."

Milagros had extensive experience with healing prior to her most recent experience. For her, it was a matter of reawakening by focusing her awareness back to the true nature of her being.

Greater power, as experienced by these participants, is a manifestation of a higher frequency pattern and should, according to Rogers, be associated with other higher frequency patterns. Awareness of spirituality, within the Rogerian framework, has also been considered a higher frequency pattern (Malinski, 1991). A correlation between greater spirituality and greater power has been demonstrated (Smith, 1992). Indeed, the participants reported that both their awareness of the spiritual and their active participation in change increased as the process evolved.

From a Rogerian perspective, the growing awareness of the spiritual nature of their being would be a growing awareness of Integrality, of the continuous mutual process of human and environmental fields (Malinski, 1994). The participants described the process as both an opening to and as a growing awareness of Spirit, but felt that Spirit had been present throughout their entire lives. Awareness, then, may be the key. For these three the disease was the impetus to becoming more observant as their awareness was first focused on unmistakable symptoms which frightened them. Having become consciously aware of physical symptoms, they were able to shift that focused awareness to emotional and then, finally to spiritual realms, each new awakening in conscious or focused awareness adding onto the last. To this they also brought an intellectual awareness as they focused on and sorted out the meaning. This process, focused awareness, felt like freedom, and gave them choices so that they became more actively involved in their own lives. Their accounts of healing described the process whereby illness can become an empowering experience.

According to the Rogerian framework, higher frequency patterning increases the likelihood that the change-the physical healing-would be an innovative pattern change (Malinski, 1993), and one not seen on a regular basis. This suggests the physical healing was not the result of the right variables coming together in just the right amounts to bring about electrochemical events which produced physical recovery. Rather, the recovery may have been a manifestation of ever increasing frequency wave patterns which the participants achieved by patterning the field with ever increasing power, with ever increasing participation in the process, with ever increasing spiritual awareness. As such, it would be an innovative and diverse pattern but one to-ward which humanity may be evolving.

Conclusion

While research in PNI was helpful in the understanding how a change in the perception of stress may have been involved in the physical recovery, it could not explain the entirety of the healing experience. The Rogerian framework not only provided a fuller explanation, it validated the more paranormal experiences of these three extraordinary women and helped explain how they perceived help of a spiritual nature from their environmental field.

The process involved can be conceptualized as one of ever increasing frequency patterning. Having become aware of frightening physical symptoms, it was an easy transition to awareness of the emotional then of the spiritual. Each step added to the one prior and each step demonstrated a higher frequency pattern. Rather than looking at the physical recovery as a biochemical event resulting from a change in the perception of stress, it would be more helpful to view the change in the perception of stress and the biochemical manifestations associated with that change as higher frequency patterning. In this way, greater power, greater spirituality and healing become manifestations of the one continuous mutual process of the human/environmental field.

Final Comment

The three participants in this study have helped illuminate an experience not considered possible by many traditional health care professionals. Their willingness to spend the time necessary to help with the study, and their courage in revealing aspects of themselves which did not always make them feel comfortable, has provided this study with a wealth of information and insight which would not have been possible using a more quantitative approach. It is hoped that this information will add to the growing body of knowledge about healing in general and about extraordinary healing in particular.

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This study was Dr. Schneider's doctoral work at New York University

Commentary on Focusing Awareness: the Process of Extraordinary Healing from
a Rogerian Perspective
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Patricia Schneider's "Focusing Awareness: the Process of Extraordinary Healing from a Rogerian Perspective" published in *Visions* in 1995 was chosen, and rightly so, for this commemorative 20th anniversary issue. Exploring 'what is healing' in a unitary/Rogerian paradigm enriches our theory based practice for nurse educators, researchers and clinicians. The traditional view of healing has been linear and causal. Parts knit back together, as in wound healing; a person recovers and heals from loss or trauma. But in the last at least 20 years we have become more aware of the unitary nature of healing.



As we face numerous national and worldwide crises as well as try to understand and participate with individuals as they survive and thrive, we will need to understand the full meaning of healing. This appreciation includes not only the knitting of broken bones but the restoration of broken spirits. While the mantra in unitary-transformative paradigm is that we are all whole and thus 'parts' of the person do not knit back together, I contend that the sense people have in trauma and loss is that they are *not whole* but rather feel fragmented. Intentionally participating in helping people and ourselves to reestablish a sense of wholeness is the process of healing. Healing is sometimes a surprise to both the healee and those who work to promote recovery or cure.

Schnieder completed an early study that she believes derives from, and supports, Rogerian Science. Her theoretical backdrop reflects her time in history (the late 90's) when Candace Pert (1993) developed her revolutionary psychophysiological conceptual framework. Pert demonstrated with biological evidence that neurotransmitters are not isolated in the brain but are evident everywhere in our bodies. Body and mind were now accepted as connected and as *one*.

Schnieder used grounded theory to tease out the recursive phases of 'exceptional' healing in three women who used alternative approaches to severe medical diagnoses. 'Exceptional' healing is remission of symptoms or unexpected disappearance of disease. She frames this phenomenon through the psychoneuroimmunologic lens which assumes an "undiscovered 'enlivening' energy" described by Pert (1993). This *energy* accounts for the spontaneous communications and changes within the body that are related to healing. Schnieder describes this in Rogerian terms as the person's energy field pattern manifestation in the whole system rather than one response at a time. This seems to be her basic framework as she embarks on the study. One could critique her having a theoretical basis before doing grounded theory, but from my view one cannot do any research without acknowledging a basic philosophical

and theoretical base and potential bias. Our beliefs color the kinds of questions we ask, how we asked them and then how we analyze and interpret the data and finally abstract this into a new theory, or conceptual framework. Since traditional grounded theory methodology fragments a phenomenon and examines its 'parts', this approach could be criticized by those espousing a unitary paradigm. However, the methodology offers the opportunity to reconstruct the 'parts' back into a unified whole that is greater than and different from the sum of the parts and this enhances theory and understanding of phenomena such as healing.

Schnieder derived a four-stage process to describe her participants' experience of exceptional healing. *Focusing awareness* was central to this process. This focus helped the person develop awareness sufficiently so that they participated more fully in their decision-making and in the healing process. The four stages in Schnieder's model include: 1) Rejecting the medical approach which was mediated by anger, 2) Deciding to find an alternative, 3) Choosing the right therapy, and 4) Active involved participation. While she admits that describing phases of healing may appear to be linear, she explains that the phases do not necessarily occur in a prescribed linear way. One phase does not cause the other but certain characteristics *may be associated with* how participants felt they were progressing toward a healing changes. Her theory is based on a person's reawakening (body, mind spirit) by 'focusing awareness on the true nature of being'. Healing begins with bodily awareness of discomfort and progresses to awareness of emotional and interpersonal issues and finally manifests in behavioral change as well as a spiritual intuitive sense that something paranormal has happened.

While this can be viewed as a linear one, two, three process, any process of transformation and change has a quality of movement which can be interpreted as linear. Such linearity need not be a causal progression, or progress in a predictable manner. In reality most change progresses in a Rogerian manner: unpredictably spiraling forward in increasing diversity. While Schnieder does not explicitly describe the changes in exceptional healing as a recursive spiral, I would wonder if this more unitary Rogerian metaphor is appropriate to apply. Could the process she describes be reversed or seen in a different order? For example, might healing begin with spiritual distress or emotional pain and evolve to a manifestation of a painful physical disorder? Could emotional distress promote such significant behavioral change that the person's focused awareness is enhanced to the extent that the person feels 'healed'? Schnieder does not ask these questions and, therefore, we must ask if her theory really does have a linear and potentially cause and effect flavor. Here we often have difficulty looking at change and describing how changes occur as a unitary and recursive phenomenon. Rogerian theory is helpful in portraying change as unidirectional, innovative and unpredictable. This is similar to other theoretical frameworks that attempt to delineate change. (Zahourek, 2005; Pilkinton, 2000)

Schnieder's theory may be useful in both the reciprocal-interactionist as well as the unitary Rogerian paradigm. Her paper is an example of describing a phenomenon in two languages- the language of interactive process toward change (phases of healing) and the unitary framework – change is innovative and a manifestation of “ever increasing frequency patterning”. Schnieder uses Rogers to frame her results by applying Barrett's theory of power as knowing participation in change. As her participants healed they became more aware of their own power which was experienced as a ‘manifestation of a higher frequency pattern’. Their spiritual awareness, and their choosing to actively participate in change, increased as their process evolved. *Change*, exemplified in exceptional healing, was manifest as innovative and unexpected which was not the same as straight forward joining of parts, as in wound healing.

Nurses have conceptually written about healing from various perspectives including a “transpersonal” perspective (Hover-Kramer, 1989) and as “integrated awareness” (Phillips& Bramlett , 1994). Healing has been linked to relationship (Quinn et al, 2003), to consciousness (Newman 1997), to spirituality (Perkins, 2003) and to environments. Consistently scholars link healing in one way or another with expanding awareness, consciousness, intention(ality), therapeutic relationship, enhanced spirituality, and whole, or unitary, change. “Healing” whether ‘spontaneous’ and unexpected, or more protracted and subtle, is viewed ultimately as a positive multifaceted event (intervention, process and outcome). It is impossible to discuss this concept without grappling with concepts of change and transformation. Pilkington (2000) reviewed numerous philosophical and nursing theories regarding change. She concluded that in the unitary-transformative paradigm change is associated with persistence and intentionality.

Since the 1990's when Schnieder did her study, few nurses have formally studied healing in order to build data based theoretical frameworks about the characteristics and process of healing. Zahourek (2002, 2005) and Cowling (2006, 2009) have been using qualitative data to build healing theory in a unitary-transformative paradigm. In her unitary theory of intentionality as the matrix for healing, Zahourek (2002), contends that healing is “a dynamic, transformational and ongoing process in which individuals' experience a shift in their being and feel they have significantly changed” (p. 351) . Healing is the restored or reawakened awareness of one's inherent wholeness following a period of actual, or perceived, fragmentation. The awareness, and recognition and utilization of those shifts occur in concert with, and as a result of, intentionality. Just as healers are healees and healees become healers, the characteristics of both healing and intentionality overlap in an evolutionary spiraling process of change. Both healing and expanded intentionality are manifest as sensations of connection with others, oneness with the universe, a shift in a sense of self, and a new awareness of meaning, wholeness and completeness. This awareness is both transcendent and transformational; intentionality enables the person to be fully aware and participate in the change.

Cowling is developing a unitary transformative theory of healing derived from his work on despair with women who have been abused as children (Cowling, 2006; Cowling & Repede, in press 2009). He identifies six focal and process aspects from the conceptual and theoretical structure of unitary healing that may be used as the grounds for a unitary healing practice. These include: wholeness, appreciation, participation, knowledge, emancipation, and change/transformation. Cowling's qualitative research methodology, Unitary Appreciative Inquiry, fits well with a Rogerian framework with its emphasis on identifying pattern. Like Schnieder, Cowling draws on Barrett's theory in viewing the healing process as having the freedom to intentionally participate in change. "Change and transformation are expressed in manifestations that emerge from the appreciative and participatory processes used in unitary healing. They are closely associated with innovative and creative consciousness and knowing that suggest possibilities to fulfill dreams and visions of those engaged in these processes – both the nurse and client benefit from this engagement. ...Through using an appreciative stance toward the wholeness of life, encouraging knowing participation in change, and using awareness and action aimed at emancipation, change and transformation are shaped by the individuals who seek the assistance of nursing".

In summary, Schnieder's work on studying exceptional healing using a Rogerian framework is an important work for those interested in pursuing a theoretical and practice base for healing. More research is needed and from various perspectives. Research methods developed particularly using a Rogerian framework as well as other frameworks developed with a unitary transformative perspective should be strongly considered and tested.

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ISSUES WITH MEASURING TIME EXPERIENCE IN ROGERS' CONCEPTUAL MODEL

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ABSTRACT

Time experience is a key concept in Rogers' conceptual model and has been uniquely interpreted by her as a manifestation of human field patterning. In this paper, issues with measuring time experience are addressed, especially with reference to the Time Metaphor Test, the instrument used most often in Rogerian investigations. Problems with obtaining and interpreting scores with this instrument are discussed, and the validity of the instrument is questioned. Recommendations for further instrument development are presented. Although the concept of time experience is not specific to Rogers' (1970, 1992) conceptual model, it has been uniquely interpreted by her as a manifestation of human field patterning. "Awareness of the passage of time is a long-standing concomitant of the human condition" (Rogers, 1970, p. 115), which emerges "out of the human) environmental field mutual process" (Rogers, 1992, p. 31). In this paper, several issues with measuring time experience in Rogers' conceptual model will be addressed, including problems with interpreting the results of such measurement.

Key words Time experience, Rogerian model, Time Metaphor Test
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The Concept of Time Experience

According to Rawnsley (1977), time experience is "the perception of felt or experiential time rather than assessment... of clock time" (p. 20). Meerloo (1970) stated that "the sense of time [is] a multilinear evolving process" (p. 3) that "connotes movement and becoming" (p. 6). He noted that "modern physical science has taught us that absolute objective time does not exist" (Meerloo, 1970, p. 7). In contrast, subjective time experience is a "continuous flow, a dynamic phenomenon" (Meerloo, 1970, p. 8). In applying Rogers' model to time experience, Paletta (1990) stated that the perception of time passing "evolves through a lifetime of continuous mutual)human and environmental field] processes, culminating in the individual's current pattern of time sense in relation to the environment" (p. 240).

Meerloo (1970) claimed that subjective time experiences vary as much as people do themselves. Similarly, Rogers (1992) indicated that diversity of the human field pattern, of which time experience is a manifestation, varies with the

individual. According to Paletta (1990), time experience may be viewed as "a subjective experience with each person developing an individual rhythm"(p. 241).

Measuring Time Experience

In studies using the Rogerian model, time experience has been measured mainly through use of the Time Metaphor Test (TMT) (Knapp & Garbutt, 1958), an instrument consisting of 25 metaphors which symbolize the subjective experience of time passing. The author recognizes that Paletta (1988, 1990) has developed a similar instrument, the Temporal Experience Scales (TES), for measuring time experience in relation to Rogers' model. This instrument consists of 24 metaphors which symbolize the experience of time moving. Six of the 24 metaphors on the TES are the same as those on the TMT. Because the TES has not yet been as widely used as the TMT, and because Paletta (1988) acknowledged that the TMT "established a direction for instrument development within Rogers' framework" (p. 28), the focus here will be on the use of the TMT.

Description of the TMT

The TMT was developed from an original list of 40 metaphors collected from "quotations, anthologies, and other sources" (Knapp & Garbutt, 1958,p. 427). Based on the results of a pilot study, only those metaphors which elicited a wide range of valid responses were retained. The instrument was then administered to 73 male undergraduate students along with four standard Thematic Apperception Test pictures which were scored for n-Achievement (n-Ach). The intercorrelations of each metaphor with every other and with the n-Ach scores were computed. Factor analysis revealed two factors, with the highest loadings on the first factor. Through comparison of the factor loadings with the correlations between the metaphors and n-Ach, it was determined that the first factor defined a continuum ranging from swift to static time experience.

Despite low loadings on the second factor, the metaphors were placed on coordinates representing the two factors. Three distinct clusters emerged: *Dynamic-Hasty*, *Humanistic*, and *Naturalistic-Passive* (Knapp & Garbutt, 1958). The terms *Vectorial* and *Oceanic* are currently preferred instead of *Dynamic-Hasty* and *Naturalistic-Passive*, respectively (Fraser, 1966, p. 597). The *Vectorial* cluster was interpreted by Knapp and Garbutt (1958) as indicating the experience of time passing swiftly, whereas the *Oceanic* cluster as interpreted as indicating the experience of time passing slowly. The *significance of the Humanistic* cluster was not determined. Three metaphors were not included in any of the clusters and were designated as occupying intermediate spaces between the three clusters (Table 1). According to Knapp and Garbutt's (1958) analysis, the metaphors included in the *Vectorial* cluster loaded substantially on the first factor, which was positively correlated ($r = .22$) with n-Ach. The *Oceanic* cluster loaded negatively on both the first and second factors; this cluster was negatively correlated ($r = -.094$) with n-Ach. The metaphors included in the *Humanistic* cluster loaded positively on the second factor, but had no substantial loadings on the first factor. This cluster was negatively correlated ($r = -.079$) with n-Ach. An F-test comparing the means of the three clusters yielded a statistically significant value ($F = 5.43$, $p <$

Table 1
Clusters, Factor Loadings, and Rank Order of Metaphors on the Time Metaphor Test (TMT).

| Metaphor by cluster | Loadings on first factor | | Rank order |
|---|--------------------------|--------------------|--------------------|
| | K & G (N = 73) | W & G (N = 278) | W & G (N = 278) |
| <u>Vectorial</u> | | | |
| A fast-moving shuttle | +.69 | + .36 | 1 |
| A speeding train | +.66 | +.74 | 2 |
| A galloping horseman | +.53 | +.69 | 3 |
| A fleeing thief | +.50 | +.65 | 4 |
| A space ship in flight | +.39 | +.37 | 6 |
| A dashing waterfall | +.36 | +.44 | 7 |
| A whirligig: a pinwheel | +.36 | +.61 | 5 |
| <u>Humanistic</u> | | | |
| A devouring monster | +.15 | +.38 | 9 |
| A tedious song | +.12 | -.18 | 14 |
| A large revolving wheel | +.07 | +.31 | 10 |
| A burning candle | +.06 | -.36 | 16 |
| A winding spool | -.05 | +.16 | 12 |
| A string of beads | -.29 | -.38 | 17 |
| An old man with a staff | -.20 | -.44 | 19 |
| An old woman spinning | -.36 | -.23 | 15 |
| <u>Oceanic Cluster</u> | | | |
| Drifting clouds | -.12 | -.46 | 21 |
| Wind-driven sands | -.21 | -.06 | 13 |
| The Rock of Gibraltar | -.33 | -.30 | 22 |
| Budding leaves | -.34 | -.42 | 18 |
| A road leading over a hill | -.36 | -.54 | 23 |
| A quiet, motionless ocean | -.61 | -. 63 | 24 |
| A vast expanse of sky | -.61 | -.68 | 25 |
| <u>Intermediate</u> | | | |
| Marching feet (Vectorial-Humanistic) | +.19 | +.23 | 11 |
| A bird in flight (Vectorial-Oceanic) | +.16 | +.43 | 8 |
| A stairway leading upward (Humanistic-Oceanic) | -.58 | -.44 | 20 |

Note. K & G = Knapp & Garbutt (1958). W & G = Wallach & Green (1961)

.02). However, Knapp and Garbutt (1958) acknowledged *that the Oceanic and Humanistic clusters did not differ significantly from each other.*

Wallach and Green (1961) used the TMT in a comparative study of time experience in adults aged 18 to 20 years (N = 118) and adults aged 65 to 75 years (N = 160). Factor analysis revealed one major factor which concerned swift to static time experience and which was similar to the first factor extracted by Knapp & Garbutt (1958). The second factor varied from group to group. Wallach and Green make no mention of the clusters of time experience identified by Knapp and Garbutt.

Use of the TMT in Rogerian Studies

Even though the statistical validity of the TMT can be questioned, especially the derivation of the three clusters of time experience, the instrument has been used frequently in research using Rogers' (1970, 1992) conceptual model. Only those studies which have direct bearing on the issues addressed in this paper are presented.

Rawnsley (1977, 1986) used the TMT to study the perception of speed of time passing and the process of dying in 108 hospitalized adults. She postulated that since dying is a developmental stage of the life process, it should be related to other manifestations of human field patterning such as time experience. The participants were divided into four groups: older, dying (ages 55 to 75, diagnosed with metastatic cancer) (N = 30); older, not-dying (non-life-threatening diagnosis) (N = 30); younger, dying (ages 17 to 30, diagnosed with meta-static cancer) (N = 18); and younger, not dying (N = 30). No significant differences in scores were found between age groups although younger, not-dying individuals had a preference for swifter metaphors, whereas older, dying individuals had a preference for the slowest. There also were no significant differences between the dying and not-dying groups on the TMT. The hypothesis that younger, dying persons would perceive time as passing more swiftly than older, not-dying persons was not supported. Indeed, these two groups were the most similar with respect to time experience of the four groups studied.

A problem with interpreting the results of this study is that Rawnsley (1977, 1986) used Knapp and Garbutt's (1958) original designations of swift to slow metaphors in scoring the TMT. Macrae (1982) has suggested that those metaphors originally interpreted as the slowest may actually represent the fastest, connoting an experience of timelessness. When Rawnsley's scores are interpreted as suggested by Macrae, her additional hypotheses that older persons perceive time as passing more swiftly than younger persons, and that dying persons perceive time as passing more swiftly than those who are not dying, are partially supported.

Ference (1979) used the TMT to assess the relationships of time experience and human field motion, for which she developed the Human Field Motion Tool (HFMT). In her study of 213 volunteer adults,

she elicited a positive relationship between the canonical variate, which she named "Human-Field Motion," and time experience ($r = .90$). Allen (1988) and Hastings-Tolsma (1992) also studied human field motion and time experience, along with other variables pertinent to their respective investigations, using the TMT and the HFMT. Scores on the TMT were re-reported according to the three clusters of time experience identified by Knapp and Garbutt (1958). Scores on the HFMT were reported according to the three basic dimensions of a semantic differential: activity, potency, and evaluation (Osgood & Suci, (1958). In both studies, significant positive correlations were found between the *Vectorial* cluster of the TMT and each of the three dimensions of the HFMT.

Macrae (1982) used the TMT to study time experience, as well as human field motion, in a comparative study of meditating ($N = 45$) and non-meditating ($N = 45$) individuals. Meditators describe changes in the perception of time passing, so she expected that different metaphors would be chosen by meditating and non-meditating participants. Macrae posited that meditators might choose metaphors, which were identified by Knapp and Garbutt (1958) as indicating the slowest time experience because such metaphors symbolize the sense of timelessness experienced during meditation. In Rogers' (1992) model, the experience of timelessness can be interpreted as "a wave frequency so rapid that the observer perceives it as a single, unbroken event" (p. 31). That is, time is experienced as passing swiftly, not slowly. Macrae's (1982) hypothesis about time experience was supported ($t = 4.75$, $df = 73.09$, $p = .001$).

Butcher and Parker (1988) used the TMT to study the relationships of guided imagery and time experience, along with human field motion, in a pre-test/post-test design, using 60 participants who were randomly assigned to either the experimental or the control group. Like Macrae (1982), they predicted that participants experiencing pleasant guided imagery would have lower scores on the TMT, with low scores indicating the experience of timelessness. This hypothesis was supported ($F(1, 18) = 4.358$, $p < .05$).

Strumpf (1982) used the TMT to investigate the relationships among life satisfaction, self-concept, and time experience in a sample of 86 women, ages 65 and older. She found no significant relationships between time experience and life satisfaction ($r = -.048$, $p = .328$), nor between time experience and self-concept ($r = -.042$, $p = .350$). In explaining these results, she stated that perhaps the TMT "failed to capture the meaning of temporality" (p. 89) in her sample of older women.

Watson (1993) used the TMT to explore the relationships of sleep-wake rhythm, dream experience, human field motion, and time experience in a sample of 66 healthy women, ages 60 to 83 ($M = 71.2$). She also found no significant relationships between time experience and any of the other main variables.

However, there was an unexpected significant correlation between time experience and chronological age ($r = .2863$, $p = .05$, two-tailed test).

Problems with Interpretation

One problem with interpreting the results of measures with the TMT is the variation in methods used to obtain scores on the test. Both Knapp and Garbutt (1958) and Wallach and Green (1961) instructed participants to rate all 25 items using rank scores of one to five.

Select the five phrases that seem most appropriate and before each place the number "1." Then pick out the next five most appropriate phrases and before them place the number "2." Continue this process until you have placed the number "5" before the five least appropriate phrases (Knapp & Garbutt, 1958, p. 428; Wallach & Green, 1961, p. 72).

This laborious approach to completing the instrument has been problematical. Ference (1979) reported that participants had difficulty selecting five metaphors with respect to the "five quantitative values" (p. 63), and recommended that in future investigations, participants simply check the five metaphors "which most closely resemble how time seems to be moving in your life" (p. 65). The method recommended by Ference is similar to that used by Rawnsley (1977, 1986), who needed a simpler method of administering the test because her sample included individuals who were dying. She instructed participants to choose five metaphors and assign ratings of "1" to "5" to them, with "1" indicating their first choice. Watson (1993) used the original directions for completing the test in her pilot study ($N = 19$) and found that five participants were unable to complete the instrument. Those who did indicated it was difficult and time-consuming to do so. For the main study, the approach recommended by Ference (1979) was employed. This approach also has been used by Butcher and Parker (1988), Macrae (1982), and Strumpf (1982), with the directions re-worded in accordance with Ference's (1979) recommendations. Ference, for example, refers to time as moving, whereas Rawnsley (1977, 1986) describes it as passing.

In studies in which participants are instructed to check the five items on the TMT that most closely resemble how time is moving for them, scores have been determined using Wallach and Green's (1961) rankings for each metaphor. These are based on their factor analysis of the instrument which revealed a swift-to-static factor similar to that identified by Knapp and Garbutt (1958). In the studies by Butcher and Parker (1988), Macrae (1982), Rawnsley (1977, 1986), and Strumpf (1982), the rankings used were the same as those from Wallach and Green (1961). In Watson's (1993) study, the metaphors originally interpreted as a slow experience of time moving were given the highest scores, because these metaphors have since been interpreted by Macrae (1982) as representing timelessness, which is the fastest time experience in Rogers' (1992) model. Thus, high scores on the TMT in Watson's (1993) study would be comparable to low

scores in the aforementioned investigations.

Allen (1988) and Hastings-Tolsma (1992) used a different approach for administering and scoring the TMT. According to Allen (1988) there is "considerable loss of data" (p. 49) when participants check only five of 25 items. Further, it is not possible to determine alpha reliability, nor to perform validity measures such as factor analysis when only five items are checked. Thus, Allen applied a five-point rating scale to each metaphor, and participants rated each item independently of the others. Possible scores for each metaphor ranged "from 0 to 4, with the lowest score assigned to the response 'definitely does not resemble my sense of time'" (Allen, 1988, p. 49). Unlike previous studies, a total score on the TMT was not reported. Instead, scores were reported in relation to the three clusters of time experience identified by Knapp and Garbutt (1958). In supporting her use of cluster scores, Allen (1988) reported that "the Time Metaphor Test measures three distinct ways of viewing time which may not be summative and, therefore, may be best viewed by cluster scores" (pp. 48 & 49). When cluster scores are used, those metaphors designated by Knapp and Garbutt (1958) as occupying intermediate spaces between the three clusters are omitted in analysis.

Using her method of scoring, Allen (1988) was able to report alpha reliability for each cluster of scores: *Humanistic* = .62, *Oceanic* = .64, *Vectorial* = .79. She indicated that the low reliabilities may have been due to the fact that each cluster contains less than 10 metaphors. Allen did not report a factor analysis using her method of scoring, possibly because of the sample size ($N = 181$). According to Munro and Page (1993), "a ratio of at least 10 subjects for each variable is desirable to generalize from the sample to a wider population" (p. 254). Thus, for the TMT a sample size of 250 would be needed. Hastings-Tolsma (1992) used Allen's method for scoring the TMT. She reported alpha reliabilities similar to Allen's: *Humanistic* = .60, *Oceanic* = .63, and *Vectorial* = .82. Her sample size was 173, and she also did not report a factor analysis.

Although the method of scoring used by Allen (1988) and Hastings-Tolsma (1992) is an improvement in terms of yielding more data, questions could be raised about the validity of using cluster scores and about how these cluster scores should be interpreted. A closer examination of how the clusters were developed by Knapp and Garbutt (1958) is required to answer these questions. As noted earlier in this paper, Knapp and Garbutt (1958) used loadings on a swift-to-static factor and loadings on an unnamed factor on which none of the loadings was especially high, along with correlations with n-Ach, to determine that there were three clusters of time experience. The *Vectorial* cluster was, however, the only one that correlated significantly with n-Ach. Similarly, Allen (1988) and Hastings-Tolsma (1992) found that only the *Vectorial* cluster correlated significantly with the activity, potency, and evaluation factors of the Human Field Motion Tool.

The metaphors identified by Knapp and Garbutt (1958) as comprising the *Vectorial* cluster loaded positively on the first factor at .36 or greater. One metaphor, "a galloping horseman," also loaded on the second factor at -.37. The metaphors which contributed to the *Oceanic* cluster were identified as having

negative loadings on both factors. Inspection of the magnitude of these loadings reveals that five of the seven loaded negatively on the first factor at .33 or greater; the remaining two had negative loadings of only .12 and .22. Only one of the seven loaded negatively on the second factor at .30 or greater. Metaphors contributing to the *Humanistic* cluster were identified as those with positive loadings on the second factor and no substantial loadings on the first factor. Inspection of the magnitude of these loadings reveals that only five of the eight metaphors loaded on the second factor at .30 or greater. In addition, one metaphor loaded on the first factor at -.36. Of the three intermediate metaphors that did not fit into any of the three clusters, "a stairway leading upward" loaded at -.58 on the first factor, and "a bird in flight" loaded at -.31 on the second factor. In fact, if a minimum cut-off of .30 for factor loadings is used, only 14 of the 25 metaphors loaded sufficiently on the first factor, seven positively and seven negatively, whereas 8 of the 25 metaphors loaded substantially on the second, five positively and three negatively. Three metaphors had loadings of .30 on both factors. Six of the 25 metaphors did not have salient loadings on either factor.

Knapp and Garbutt (1958) used centroid factor analysis without rotation. Nunnally (1978) stated that this method "is not quite as efficient at condensing variables as . . . the method of principal components . . . [although] it is far simpler to compute" (p. 349). The sophisticated computerized approaches to factor analysis in use today were not available at the time of Knapp and Garbutt's investigation. Moreover, their sample size was only 73, which is insufficient for factor analysis of a 25-item instrument (Munro & Page, 1993).

Wallach and Green (1961), in their study with 278 participants, were able to identify a factor similar to Knapp and Garbutt's (1958) swift-to-static first factor, using the centroid method without rotation. Twenty of the 25 metaphors loaded at .30 or greater on this factor, 10 positively and 10 negatively. Of those that did not load substantially, three were from the *Humanistic* cluster, one was from the *Oceanic* cluster, and one was an intermediate metaphor. Four of these five also had no substantial loadings on Knapp and Garbutt's first factor, although two loaded substantially on the second. It is interesting to speculate why these metaphors were retained on the instrument and how their inclusion affects validity and scoring, especially when cluster scores are used. More importantly, Wallach and Green (1961) did not report a second factor, nor did they discuss their findings with respect to Knapp and Garbutt's (1958) three clusters. Thus, the three clusters of time experience used by Allen (1988) and Hastings-Tolsma (1992) were derived from one study in which an out-dated method of factor analysis was used with an inadequate sample size.

Compounding the problem of how the clusters were determined are the different ways in which they have been interpreted. According to Knapp and Garbutt (1958), metaphors in the *Vectorial* cluster represent the experience of time passing swiftly, whereas those in the *Oceanic cluster* represent the experience of time passing slowly and passively. The *Humanistic* cluster was not interpreted, but most of these metaphors' loadings on the swift-to-static factor fell

between those for the *Vectorial* and *Oceanic* clusters. When scores are determined using Wallach and Green's (1961) rank order of loadings on the first factor, the *Humanistic* metaphors fall approximately in the middle of the range of 1 to 25. The metaphors by cluster do not line up exactly on the swift-to-static factor, and there is some overlap among the clusters. Thus, scoring done by cluster differs somewhat from scoring, which is done in relation to rank order of the metaphors. Yet, in investigations in which the rank-order approach to scoring has been used (Macrae, 1982; Strumpf, 1982), there is a tendency to discuss findings on individual items in relation to the clusters within which they fall, and not in relation to their rank order. Moreover, in this writer's analysis of metaphors selected most and least frequently in the studies by Macrae (1982), Strumpf (1982), and Watson (1993), striking similarities were found, despite wide age differences in the three samples. For example, the metaphors selected most frequently by the healthy older women in Watson's sample were not only similar to those selected by Strumpf's older women, but were also similar to those selected by Macrae's group of younger, non-meditating participants (Watson, 1993). Further, there were similarities among these three groups and Macrae's meditators. The only differences were that meditators were more likely to select metaphors such as "a quiet, motion-less ocean," "budding leaves," and "a vast expanse of sky," and less likely to select "a speeding train" and "a fast moving shuttle." Perhaps this indicates that only some of the metaphors are truly operative in differentiating time experience among various groups. Indeed, of the five aforementioned metaphors, four were among those with the highest loadings on the swift-to-static factor identified by Knapp and Garbutt's (1958) and Wallach and Green's (1961) analyses.

Macrae (1982) was the first to suggest that metaphors in the *Oceanic* cluster were "descriptive of the experience of timelessness" (p. 8), which in Rogers' (1992) model is the fastest experience of time passing. At the time of Macrae's (1982) investigation, the manifestation of patterning pertaining to time experience was delineated by Rogers (1979, 1983) as "time drags/ time races/ seems timeless" (Table 2). This was changed by Rogers in 1985 to "time experienced as slower/time experienced as faster/timelessness," and remains her current interpretation (Rogers, 1992). Based on Macrae's (1992) interpretation, the *Oceanic* cluster became associated with timelessness, while the *Vectorial* cluster became associated with time racing.

Table 2
Interpretation of Time Experience

| | Slowest | | Fastest |
|---------------------------------------|----------------------------|----------------------------|----------------|
| Knapp & Garbutt (1958) | Oceanic | Humanistic | Vectorial |
| Macrae (1981) & Watson (1993) | Vectorial | Humanistic | Oceanic |
| Allen (1988) & Hastings-Tolsma (1992) | Humanistic | Vectorial | Oceanic |
| Rogers (1979) & (1983) | Time drags | Time races | Seems timeless |
| Rogers (1985) & (1992) | Time experienced as slower | Time experienced as faster | Timelessness |

How the *Humanistic* cluster was interpreted in relation to Rogers' ideas of time experience is not clear, but in investigations using Wallach and Green's (1961) rankings, scores continued to be assigned according to rankings which fell roughly between those for the *Oceanic* and *Vectorial* clusters. Thus, scores were assigned to metaphors which were not interpreted by Knapp and Garbutt (1958) and which did not appear to have a theoretical relationship to Rogers' model. The aspect of "time dragging," i.e., the slowest experience of time passing, remained unmeasured.

Although cluster scoring avoids the problem of using summative scores which include the eight metaphors from the *Humanistic* cluster, a question could be raised as to why this cluster should be included at all. Interestingly, both Allen (1988) and Hastings-Tolsma (1992) interpret the *Humanistic* cluster as indicating "time dragging." Neither elaborates on how she arrived at this conclusion, nor is the interpretation related to the position of metaphors in this cluster on the swift-to-static factor (Knapp & Garbutt, 1958; Wallach & Green, 1961). Moreover, results of both Allen's and Hastings-Tolsma's studies revealed that the *Humanistic* cluster did not correlate significantly with any of the other variables except for the *Oceanic* cluster in both investigations, and with the *Vectorial* cluster in Hastings-Tolsma's investigation.

When Paletta (1988) developed the Temporal Experience Scales, she determined separate measures for each aspect of time experience

postulated by Rogers (1983). Although she defined "time dragging" as "a human field pattern of experiencing the movement of events in the environmental field as slow, boring, tedious, leaden, or dull" (Paletta, 1988, p. 3), she did not explicitly relate time dragging to metaphors in the *Humanistic* cluster, nor did she include any metaphors from this cluster on her time dragging scale. Yet, she did include three metaphors from the *Vectorial* cluster on her time racing scale, and two metaphors from the *Oceanic* cluster on her timelessness scale.

Conclusions and Recommendations

Despite the wide use of the TMT in Rogerian studies, and realizing that some researchers were able to support their hypotheses with the instrument (Butcher & Parker, 1988; Ference, 1979; Macrae, 1982), questions can be raised about the validity of this instrument, especially with respect to the initial development of the three clusters of time experience. Even more problematical is the interpretation of the results in relation to Rogers' model. Yet, time experience is a manifestation of human field patterning in her model, and an approach to measuring it is needed. Perhaps the answer is to develop new instruments as Paletta (1988) did. Another possibility is to replicate the factor analysis of the TMT, using larger samples and modern data analysis techniques. Allen's (1988) and Hastings-Tolsma's (1992) approaches of having participants rate each metaphor independently would provide the data needed for such analyses. Perhaps there are clusters of time experience that are not yet identified. Certainly, the Humanistic cluster should not be used in investigations using Rogers' model as the origins of the cluster and its meaning in relation to the model are highly questionable. Finally, it is possible that qualitative studies are needed to determine what Rogers' (1992) terms for time experience mean to others, so that regardless of which quantitative instruments are used eventually, there would be consistency in interpretation across studies as well as in relation to Rogers' model.

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Measurement of Time Experience: A Commentary

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*Events in our lives happen in a sequence in time,
but in their significance to ourselves they find their
own order in a continuous thread of revelation.*

Eudora Welty



Time experience is a pivotal concept in Rogers' Science of Unitary Human Beings (SUHB). As an energy field integral with the environmental field, the human field is recognized by pattern manifestation - a distinguishing characteristic of energy fields. Such pattern manifestation reveals the diversity of the human field. Time experience is one pattern which emerges from the mutual human-environmental energy field process but is likely the cornerstone for understanding the human field experience of change.

How the individual experiences time provides a sense of the individual's appreciation of the human-environment mutual process. Studies which have examined individuals experiencing stress and those diagnosed with a range of personality manifestations such as anxiety, depression, autism, bipolar disorders, and schizophrenia have noted temporal variations which provided a window for understanding how events in life were revealed to the individual and the meaning that those events held for them (D'Argembeau, Raffard & Van der Linden, 2008; Glazebrook, Elliott & Lyons, 2008). The ability to capture how humans experience time - their multidimensional reality - may allow scientists to better understand human-environmental change. It has been noted that where there is more change, the faster it speeds itself up (Rogers, Doyle, Racolin & Walsh, 1990, p. 377). Measurement of time experience is an important parameter to probe in an attempt to better understand pattern variation and its potential meaning.

Many scientific investigations within the context of the Rogerian model have tried to elucidate the experience of time within the context of varying human-environmental processes. These studies have examined time experience and meditation (Macrae, 1982), clairvoyance (Allen, 1988), mystical experience (Bray, 1989), guided imagery (Butcher & Parker, 1988), the dying process (Rawnsley, 1986), risk-taking (Hastings-Tolsma, 2007), musical preferences (De Sevo, 1991), developmental norms (Fence, 1979; Strumpf, 1982; Watson, 1993), cultural differences (Salo, Krause & Astedt-Kurki, 1990), and patient-nurse process in spiritual care (Davis, 2006). Methodological issues in measuring time experience dogged many of these studies, none of which have been resolved

since the publication of Watson's (1996) "Issues with Measuring Time Experience in Rogers' Conceptual Model." Watson rightly noted that the most commonly used measure for time experience, the Time Metaphor Test (Knapp & Garbutt, 1958), had validity issues. Unfortunately, the intervening decade has seen little movement in the measurement of time experience.

The need for valid and reliable time experience measures is pressing. The few measures used to date include the Time Metaphor Test (Knapp & Garbutt, 1958), Time Opinion Survey (Kuhlen & Monge, 1968), the Temporal Experience Scales (Paletta, 1990), and the Human Time Scale (Yonge, 1973). Use of these tools has generally involved reconceptualization for consistency within the Rogerian framework. However, such efforts have generally fallen short of expectations for capturing a construct consistent with the SUHB. While Watson and colleagues (2000) conducted work to further evaluate construct validity of the Time Metaphor Test in relation to its use in Rogerian research, very little work on these time measures has been otherwise undertaken. The mandate is thus clear. Creative new multidimensional measures developed within the SUHB are requisite to adequately capture time experience in a fashion that furthers understanding of the experience of human-environmental process.

There has been some effort to examine time experience using complexity science (Lewin, 1999). Complexity science evolved out of general systems theory and chaos theory in the 1990s. While chaos was deemed "too chaotic to understand," complexity was noted to be understandable through the use of computers (Lawrimore, 2004). A complexity approach suggests a middle area between static order at one end and chaos at the other (Lawrimore, 2004) and many scientists have been drawn to it believing that it provides a more accurate view of reality. The issue of concern, however, is a basic belief in complexity science that systems are adaptive – a notion contrary to fundamental beliefs within Rogers' SUHB (Rogers, 1986). Rogerian science proposes that human-environmental field processes are mutual, irreducible, multidimensional, and unpredictable, not interactive and adaptive. While complexity science may be useful in providing a partial understanding of time experience, it is unlikely to provide a substantive and highly meaningful answer.

Conversely, chaos theory may be a more useful approach in developing measurement of time experience. Chaos theory challenges the Newtonian assumptions of certainty, linearity, and predictability (Kiel and Elliott, 1997). Temporal patterns may appear random and void of order but, in fact, may reflect low or high dimensional chaos. Low-dimensional chaos may portend short-term prediction; high dimensional chaos may preclude prediction (Kiel & Elliot, 1997). The recognition of time patterns likely exist in just such a framework of order in chaos with unpredictable turbulence that reflect small changes in one system which can have disproportional effects on other field processes (Briggs & Peat, 1990). The science of chaos is driven by the belief that simple nonlinear systems can produce complex results (Prigogine & Stengers, 1984). Chaos is not about disorder. Rather, it attempts to find the order in a seemingly chaotic system. It

may well be that time experience operates on the *edge of chaos* – a process that occurs between complete randomness and complexity (Lewin, 1999). In a complex chaotic system, there is never the same context twice (Ketterer, 2006) and time experience likely demonstrates a pattern reflective of how this process unfolds.

While there has been criticism about the ability to use chaos theory in the social sciences, much of this has been focused on the inability to detail predictable patterns (LeBaron, 2008). However, it may be that this inability to predict patterns will stimulate new models of understanding time experience where mining of data sets is undertaken. Use of this theory to further understanding of time experience would also be consistent with Rogers (1990) emphasis on unpredictability. Some scientists regard chaos theory as a new way of knowing, beginning where the traditional scientific method stops (Mack, Huddleston, Dutler & Mintah, 2000). Chaos theory affords a macroscopic approach to understanding the complex human field where discovery examines an unlimited number of variables over time.

Rogers seminal writings related to the SUHB were a transformative departure from how humans and their environment had previously been envisioned. Use of Rogerian science has had the potential for developing nursing knowledge on the edge of scientific frontiers in an unparalleled fashion. There should be concern, however, about the relative paucity of Rogerian based investigations in general, and development of Rogerian based time experience measures in particular. While it has been suggested that growth of Rogerian science could be promoted through the creation of new coalitions (Barrett, 2000), such coalitions should be carefully considered for theoretical consistencies. Meaningful measures of time experience that capture the human-environmental process will have their greatest utility when developed within the parameters of Rogers' model. Merging theoretical models is unlikely to provide conceptual clarity.

Evolutionary change is continuously escalating and has increased in speed (Rogers, Doyle, Racolin & Walsh, 1990, p. 377). Understanding how humans sequence time and find order in the continuous human-environmental field processing is the challenge. Rogers observed that we are still trying to use inductive and deductive thinking in research without recognizing that [w]holistic thinking demands new ways of thinking (p. 385). Conceptual and empirical creativity is mandated if nurse scientists are to understand how humans find meaning for events that happen in a sequence of time – how they find order in a continuous thread of revelation. Research in other fields is not a substitute (Rogers, 1990).

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SOCIETY OF ROGERIAN SCHOLARS, MARTHA E. ROGERS SCHOLARS FUND ELECTION

Tae Sook Kim, PhD, RN, has recently been elected President of the Society of Rogerian Scholars, Martha E Rogers Scholars Fund Board of Directors. Previously, Dr. Kim served as a member of the Scholars Fund Board and as Secretary. An Associate Professor of Nursing at St. Joseph's College in New York, she received a BA degree from Keimyung University, Korea; BSN and MSN from Columbia University, and PhD from New York University. A member of the Society of Rogerian Scholars, Kim has been conducting research using Rogers' Science of Unitary Human Beings, and Barrett's power theory for several decades. She has translated the Power as Knowing Participation in Change Test (PKPCT) into Korean, and has conducted several studies involving Korean adults.



Recently, Kim published, "Science of Unitary Human Beings: An Update on Research," an article in which she reviewed the published findings from 24 Rogerian studies conducted between 2004 and 2007 (*Nursing Science Quarterly*, 2008, 4, 294-299). Her study on the "Relation of Meditation to Power and Well-Being" examined 63 Korean adults and was published with coauthors, J. S. Park, and M. A. Kim, professors at Keimyung University, Korea (*NSQ*, 2008, 21, 1, 49-58). Subsequently, she studied the relationship of power and well-being in 881 Korean men and women and found that well-being can be facilitated by enhanced power, as measured by the PKPCT (Kim, T., Kim, C., Park, K, Park, Y, & Lee, B., *NSQ*, 2008, 21, 3, 247-254). In 2000, Dr. Kim completed her dissertation on "Magnetic field therapy: An exploration of its relation to pain and power in adults with chronic primary headache from a Rogerian perspective" (UMI Number 9955725).

A Sigma Theta Tau International, Alpha Zeta Chapter member, among the professional honors Dr. Kim has received are the New York University, College of Nursing, Doctoral Student Achievement Award and the Martha E. Rogers Graduate award. During her doctoral education, she received a scholarship from the Martha E. Rogers Scholars Fund.

In addition to Dr. Kim, SRS Martha E. Rogers Scholars Fund President, Tina Reincken was elected Treasurer, and Cheryl Fuller, Secretary. Elizabeth Barrett, Jacqueline Fawcett and Violet Malinski are members of the Board of Directors. (See SRS MER Scholars Fund Scholarship Announcement on p.xx).

**2009 SCHOLARSHIP AWARD
SOCIETY OF ROGERIAN SCHOLARS
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AWARD CRITERIA

1. Research **or** clinical practice project based in Rogers' Science of Unitary Human Beings (SUHB)
2. Grade Point Average (GPA) of 3.5 or above
3. Society of Rogerian Scholars (SRS) membership (SRS membership form is available in the SRS website (www.societyofrogerianscholars.org))
4. Two letters of reference that address the student's:
 - a. Academic achievement
 - b. Commitment to nursing
 - c. Research/Project

HOW TO APPLY

1. Obtain an application from the SRS website (www.societyofrogerianscholars.org)
2. Complete the application
 - a. Obtain two letters of reference
 - b. Write a single-spaced one page description of your research or clinical practice project, including aim/purpose, background with clear linkage to Rogers' SUHB and summary of relevant literature, and methods (if research, the scholarship will be awarded upon the receipt of evidence of IRB approval)
3. Submit your completed application to the Fund by January 15, 2009.

AWARD PROCESS

1. Students e-mail applications to the Fund (tskim45@yahoo.com)
2. The Fund forwards applications to Scholarship Review Committee
3. The Scholarship Review Committee performs blind review of all accepted applications and selects up to three (3) awardees
4. The selected applications are forwarded to the Fund
5. The Fund awards up to three (3) \$1,000 Martha E. Rogers Scholarships.

IMPORTANT DATES

1. January 15, 2009 - Applications must be submitted to The Fund
2. March 2, 2009 - Awards will be sent to the Awardees..

Call for Manuscripts

The editors of *Visions* are seeking manuscripts for the July 1, 2009 deadline. *Visions*, a peer-reviewed, biannual publication that is indexed in CINAHL (Cumulative Index to Nursing and Allied Health Literature) is focused on content that reflects some aspect of Rogers' Science of Unitary Human Beings (clinical practice, research, theoretical issues, etc.).

Organization of Manuscript:

1. Identification page (name, address, phone number, affiliation and professional title and running title, and email address.
2. Title page (no author identification.
3. Abstract followed by 3-4 key words for indexing.
4. Text 15-20 pages.
5. Submit 4 copies of the manuscript or email a copy to:

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Call for Columns

The editors of the Columns are seeking columns of 1500 words or less for the 2009 and 2010 editions of *Visions*. Columns include: Innovations, Instrumentation/Methodology, Emerging Scholars, and Human-Environmental Field Patterning Practice. Selections for columns are editorial decisions. Only two copies need to be submitted by mail or please send by email to: srhardin@uncc.edu Upon acceptance the author/authors must submit both a hard copy and disk.

Call for Photographs

The editors are seeking photographs of Martha Rogers or other artwork for upcoming editions of the journal. Please send photographs to: srhardin@uncc.edu or mail to Dr. Sonya Hardin, Society of Rogerian Scholars, College of Nursing, New York University, 246 Greene Street, 8th floor, NY, NY, 10003-6677. If you send actual photographs please DO NOT SEND your original. Send a copy of the photograph since we cannot promise to return them.

Call for News

The editors are always seeking news about members for inclusion in the SRS News section of the journal. This news can include publications, promotions retirements, or significant life events. Please email any news to Dr. Sonya Hardin at srhardin@uncc.edu.

Save These Dates

The Society of Rogerian Scholars 2009 Annual Meeting will be October 23-25 at Florida Atlantic University in Boca Raton Florida

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