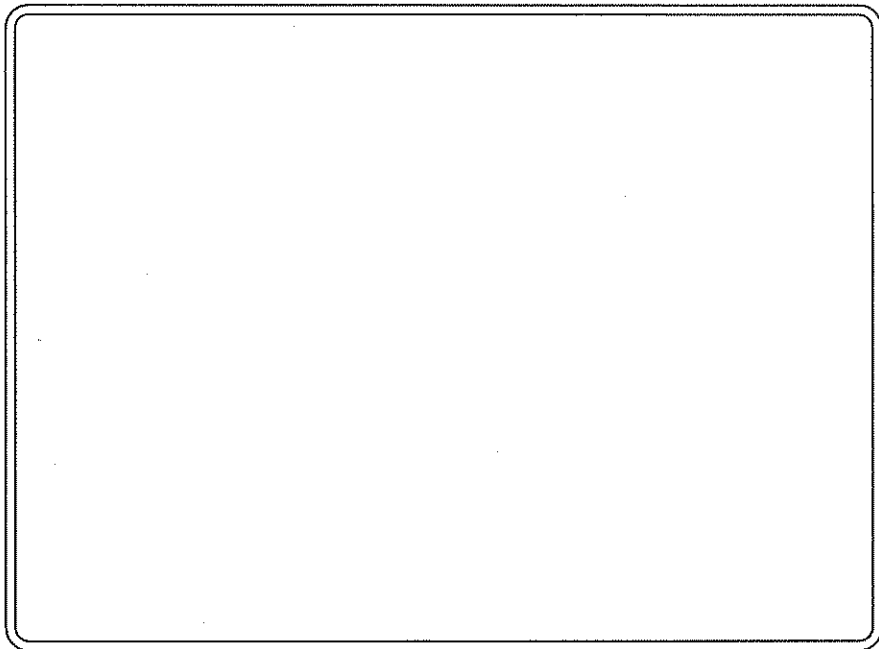


Visions



Infinite Potentials

The Journal of Rogerian Nursing Science

Visions: The Journal of Rogerian Nursing Science

Volume 7 Number 1 1999

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Guidelines For Authors

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* (4th. Ed.). References - see page 251. Although the APA manual states that the first line of each reference should be indented five to seven spaces as you would a paragraph, it also states that the typesetter will arrange the reference list in hanging indent format for publication. Since *Visions* is desk top published, we prefer that you submit the reference list with hanging indents.
5. Once the manuscript has been accepted for publication, authors must submit a hard copy plus a copy prepared on a 3 1/2 inch disk in WordPerfect 5.1 or Microsoft Word 6, prepared on an IBM or IBM compatible computer.
6. Upon final acceptance, an honorarium of \$50 will be sent to the author (or primary author if more than one).

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 December 1 and June 1. Submit 4 copies of the manuscript to:

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110 Elk Avenue
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Columns:

1. There are six potential columns - Controversies, Imagination, Emerging Scholars, Book Review, Instrumentation/Methodology and Health Patterning Modalities - that will appear as submissions are received and accepted
2. Selections for columns are editorial decisions. Only 2 copies need to be submitted. Upon acceptance the author/authors must submit both a hard copy and a disk. No honorarium is paid to authors of columns.

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Because SRS is a membership organization, our publications are benefits of membership. Each member receives *Visions* and the newsletter. Therefore, individual subscriptions are not available.

Back issues of the journal are available for \$15 a copy. The only issue no longer in stock is the premiere issue from 1993. If you would like to purchase a back issue, contact Sheila Cheema at the address above.

Editorial

Therapeutic Touch is a health patterning modality used clinically by many Rogerian nurses. Approximately a year ago, appropriately enough on April Fool's Day, a "research" article debunking Therapeutic Touch was published in *JAMA*. The article generated media coverage; responses in newspapers; debates on the Internet; letters to the editor of *JAMA*, most of which were probably never published; and discussion among people who practice and experience Therapeutic Touch.

Interest in Therapeutic Touch has not diminished since the article was published. If anything, it seems to have increased. The most requested reprint from *Visions* is the article on Therapeutic Touch that was published in our premiere issue, 1993. We get more requests for that article each year.

Because of the continuing and increasing interest in Therapeutic Touch, we would like to devote an issue of *Visions* to this topic. Another point of discussion has been the theoretical framework that underlies this modality. Because this journal focuses on Rogerian nursing science, we are looking for manuscripts that discuss Therapeutic Touch from this perspective. It is possible to compare the Rogerian approach to that of Krieger and Kunz, who developed Therapeutic Touch and have taught it for over 25 years, recognizing and evaluating differences in theoretical approach. It is also possible to present an argument for why Therapeutic Touch should not be explained according to Rogerian nursing science. The point is, we are looking for discussions reflecting Rogerian nursing science that recognize differences between the way Therapeutic Touch is conceptualized according to Krieger and Kunz and Rogers. Both are valued, but they are different.

For all submissions to this journal, we ask that contributors use primary source material for Rogers and her most current writings, eg, her 1992 article, "Nursing Science and the Space Age," from *Nursing Science Quarterly* and reprinted in Malinski and Barrett's *Martha E. Rogers: Her Life and Her Work*, and her 1994 contributions to *NSQ* and Madrid and Barrett's *Rogers' Scientific Art of Nursing Practice*. There is value in the older work, including the 1970 book, as Alligood and Fawcett show in this issue of *Visions*. However, when presenting a manuscript based on Rogerian nursing science, the framework must be consistent with current writings.

We welcome contributions for the columns listed on p. 2. In particular, we encourage submission of columns reflecting content relevant to Therapeutic Touch for our planned focus issue. Also, we need ideas for the frame on the cover. Originally we presented an empty frame urging readers to send suggestions for filling it. Keep that in mind, as well.

As we do not know when we will have enough material for a focus issue on Therapeutic Touch, do keep those manuscripts of general interest to Rogerian nursing science coming. Once we have a sufficient number, we do plan to put out a second issue of *Visions* in 1999.

ACCEPTANCE OF THE INVITATION TO DIALOGUE: EXAMINATION OF AN INTERPRETIVE APPROACH FOR THE SCIENCE OF UNITARY HUMAN BEINGS

Martha Raile Alligood, RN;PhD
Jacqueline Fawcett, RN;PhD;FAAN

ABSTRACT

For the past several years, nurse scientists have engaged in dialogue and debate about nursing epistemology and the fit or lack of fit of various research methodologies with the ontology and epistemology of specific nursing frameworks. The purpose of this paper is to argue that rational interpretive hermeneutics is compatible with the Science of Unitary Human Beings (SUHB). Fawcett (1996) issued an invitation to dialogue about issues of (in)compatibility between the world view and research rules of the SUHB. As this had not yet occurred, the authors decided to offer an interactive dialogue building on the questions raised and an examination of the compatibility of rational interpretive hermeneutics for the SUHB.

Jacqueline Fawcett

For the past several years, nurse scientists have engaged in dialogue and debate about the extent to which nursing ontology, epistemology, and methodology are compatible. Ontology, according to Rawnsley (1998), "refers to claims regarding the nature and structure of being . . . of what exists" (p. 2). Epistemology encompasses "philosophical problems concerned with the origin and structure of knowledge. . . . The central question addressed in epistemology is whether or not there are necessary and sufficient conditions for justifying belief and refuting skepticism" (Rawnsley, 1998, p. 3). Methodology "serves as the arbiter of reality in promoting epistemological aims. . . . Methodology, or the practice of science, is concerned with procedures for yielding information that is believable" (Rawnsley,

1998, p. 3).

Two years ago, I issued an invitation to dialogue about the degree to which the research rules associated with the Science of Unitary Human Beings (Rogers, 1992) are compatible with the ontology and epistemology of the Science of Unitary Human Beings (Fawcett, 1996). That invitation finally has been accepted by Martha Alligood.

Our purpose is to discuss an interpretive hermeneutic methodology which Martha Alligood proposes is compatible with the ontology and epistemology of Martha Rogers' Science of Unitary Human Beings. Martha will start with a brief review of the literature that led her to accept my invitation, and then propose the use of rational interpretive hermeneutic analysis of nursing science text for the creation or production of new nursing theory. I will then present the rules included in the invitation to dialogue. Martha will continue by discussing the proposed methodology in relation to the rules for Science of Unitary Human Beings-based research. I will then discuss

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the merits of Martha's proposal and identify other research methodologies that also are compatible with the Science of Unitary Human Beings. We hope our colleagues will continue the dialogue in the search for logically compatible Science of Unitary Human Beings-based nursing ontology, epistemology, and methodology in this and other avenues.

Martha Allgood

Review of the Literature

My proposal for the use of an interpretive hermeneutic research method for the examination of nursing science text has been influenced by the writings of many nurse scholars. Here, I will review the literature that had the most direct influence on my thinking.

Much of the early discussion of research methodologies for nursing science pitted qualitative and quantitative methods against each other and lauded the value of postpositivist qualitative approaches over so-called positivist quantitative methods. Paradoxically, this discussion of qualitative versus quantitative methods confused many novice and mature scholars and disrupted the development of nursing science (Allgood, 1997; Packard & Polifroni, 1991; Reeder, 1988; Rodgers, 1991; Smith, 1992). Earlier in this decade, efforts to link qualitative and quantitative methods were made in an attempt to return nurse scholars to the work that would advance nursing science (Dzurac & Abraham, 1993; Ford-Gilboe, Campbell, & Berman, 1995).

More recently, Thorne, Kirkham, and MacDonald-Emes (1997) took a different tactic by reviewing the limitations of both qualitative and quantitative methods and calling for the identification of qualitative research methodologies that adhere to the systematic reasoning of our own discipline. They maintained that interpretive description is an appropriate noncategorical qualitative alternative for developing nursing science. Moreover, Mitchell (1994) proposed

that inquiry specific to the discipline of nursing should include theory-based hermeneutic methods.

The origin of Thorne and colleagues' and Mitchell's proposals most likely is the nursing philosophical literature of the 1980s. In particular, Thompson (1985) challenged nurse scholars, based on the writings of Bernstein (1983), to consider nursing science within the context of other contemporary sciences and developments in the philosophy of science. More specifically, Thompson (1985) challenged nurses to go beyond empiricism and historicism and maintained that "Postempiricist philosophy has been struggling to understand [the] practical dimension of scientific rationality" (p. 64). Her emphasis on the importance of scientific rationality for nursing science development is germane to the interpretive hermeneutic methodology that I am proposing today.

Similarly, Silva and Rothbart's (1983) analysis of changing trends in philosophies of science underscored the importance of exploring innovative qualitative methods for developing nursing theories. They recommended a continued emphasis on the interrelationship of philosophies of science, nursing models and theories, and research methods at a time when some nurses were abandoning nursing conceptual systems because they regarded such formulations as "traditional science" and, therefore, no longer relevant. Silva and Rothbart's effort to embrace an evolving philosophy of science while explicitly valuing nursing knowledge provided a vital foundation for my proposal.

Silva and Sorrell (1992) later commented on the expansion of the philosophy of nursing science and explored new approaches to testing nursing theories, including critical reasoning, description and conceptualization of personal experiences, and application in nursing practice. They also called for critiques of our own and others' works to verify, or in the case of hermeneutics, to justify through reasoning.

Even more to the point of my proposal is Schultz's (1987) work. She proposed that holistic inquiry using hermeneutic interpretation could be used as a method for understanding traditional patterns. She went on to describe a practice case which demonstrated that the way we come to know what it is we think we know about humans holistically may be through a hermeneutic process that bypasses the seeming incommensurability of different methodologies. Benoliel (1987) responded to Schultz by commending her for yet another viewpoint on the "emerging discourse among nurse scholars about the metatheoretical traditions underlying nursing science" (p. 147).

My proposal to use an interpretive hermeneutic methodology for examination of nursing science text was further illuminated by Benoliel's (1987) differentiation of knowledge and knowing. She defined knowledge as concepts, theories, and ideas presented in publications. Knowing, in contrast, is an individual's perceptual awareness of the complexities of life, which draws on knowledge garnered through life experiences.

The Rational Interpretive Hermeneutic Method

Taken as a whole, this literature prompted me to begin to think about how to embrace contemporary philosophy of science without sacrificing nursing's ontology and epistemology. I concluded that the rational interpretive hermeneutic method was one way. Actually, the idea of using an interpretive hermeneutic methodology is not new. What is new, however, is the proposal to use this research method to examine existing nursing science text to uncover nursing theories.

Allen (1995) explained that interpretive hermeneutics focuses on the interpretation of textual material. More specifically, hermeneutic interpretation is described as "an interaction between a historically produced text and a historically produced reader"

(Allen, 1995, p. 175). He distinguishes interpretive hermeneutics from foundational phenomenological hermeneutic interpretation which is "not dependent upon the biographical, social, and historical location of the interpreter (Allen, 1995, p. 175). Rational interpretive hermeneutics centers on language where (1) meaning is produced through reading, which is the core hermeneutic strategy to get at traditions of meaning; (2) the interpretation is recursive, invoking a dialectic between detail and structure or a local and global perspective; (3) the reader interacts with the text, analyzing the context under which the text was produced and the meaning that words have in that context, such that the interpretation that results is a fusion of the text-and-its-context with the reader-and-his/her-context; and (4) the text itself serves as a check on the interpretation (Allen, 1995).

In addition, Allen (1995) identified process and consistency criteria for the interpretation process to identify preferable interpretations, inasmuch as more than one interpretation is possible. Process criteria include attention to the political/power conditions under which the interpretation was produced, subjecting the text and its interpretation to other readers, understanding that the meaning is in the interaction between the reader and the text, and understanding that the burden of proof is on the researcher to justify an interpretation. Consistency criteria include checks and comparisons between interpretations of parts of the text and ascertaining that meaning and structure are true to the historical period in which it was produced.

Use of the Rational Interpretive Hermeneutic Approach: The Empathy Project

I regard the use of the rational interpretive hermeneutic method to be in keeping with calls for methods that are particularly appropriate for the development of nursing science. Accordingly, two colleagues and I

undertook a project using this method with King's (1981) conceptual model of nursing. More specifically, the Empathy Research Team at the University of Tennessee in Knoxville began a hermeneutic analysis project examining nursing science text in 1993. The project involved examination of the content of King's 1981 book to expose and verify empathy within the textual materials about each of the concepts of the three interacting systems of the framework--personal, interpersonal, and social. The process involved moving back and forth from each concept to the relevant system and back to that concept in the hermeneutic circle. External reviewers of the published project report (Alligood, Evans, & Wilt, 1995) pointed out that the work represented an implicit middle-range theory of empathy (Fawcett & Whall, 1995). Currently, the Empathy Research Team is completing a project designed to formalize that theory of nursing empathy. The team's experience with this project led us to conclude that although the use of the rational interpretive hermeneutic method certainly has many benefits, perhaps the most positive one is the production of nursing science within the context of an explicit and widely recognized nursing conceptual model.

Use of the Rational Interpretive Hermeneutic Method and the Science of Unitary Human Beings

The experience I gained from the empathy project led me to consider whether the rational interpretive hermeneutic method of textual materials might be compatible with the Science of Unitary Human Beings. Initially, I reasoned that Rogerian scholars have long embraced qualitative methods of an interpretive nature. Moreover, Rogers' writings are a particularly rich repository waiting to be examined anew as we prepare to enter the 21st century.

Then, I realized that I needed to determine whether rational interpretive hermeneutics could be separated from its parent

frame of reference. As it turns out, rational interpretive hermeneutics does; indeed, recognize the distinction between philosophy and method. Allen (1995) explained that hermeneutic methodology "uncouple[s] the assumed one-to-one correspondence between philosophy of science and method. Hermeneutic or realist philosophies of science give different understanding of the role and importance of methods . . . One can defend certain techniques (methods) while maintaining a hermeneutic understanding of causality, laws, or the role of observational evidence" (p. 178). Similarly, Morse and colleagues (1996) maintained,

While qualitative methods are usually used as a packaged set, complete with epistemological underpinnings and a consistent and cohesive formula or set of particular methods, they also may be perceived as consisting of techniques usable relatively independently of their paradigms and separately from any originally intended purposes. When viewed in this light--as a series of techniques by which data may be sorted, categories developed, and the characteristics of those categories delineated and refined--the full utility of qualitative methods ... becomes apparent. (p. 262)

Next, I had to determine the compatibility of the Science of Unitary Human Beings and the rational interpretive hermeneutic method. I accomplished this by examining the rules for Science of Unitary Human Beings-based research.

Jacqueline Fawcett

I have identified six generic rules for conceptual model-based nursing research that reflect the basic notions of any scientific inquiry that is driven by an explicit frame of reference (Fawcett, 1995). The first rule identifies the phenomena that are to be studied. The second rule identifies the distinctive nature of the problems to be studied

and the purposes to be fulfilled by the research. The third rule identifies the subjects who are to provide the data and the settings in which data are to be gathered. The fourth rule identifies the research designs, instruments, and procedures that are to be employed. The fifth rule identifies the methods to be employed in reducing and analyzing the data. The sixth rule identifies the nature of contributions that the research will make to the advancement of knowledge,

I also have identified the developing research rules for the Science of Unitary Human Beings (Fawcett, 1995). The phenomena to be studied are unitary, irreducible, indivisible human beings and their environments. The problems to be studied are the manifestations of human and environmental field patterns, especially pattern profiles, which are clusters of related pattern manifestations. The purpose of Science of Unitary Human Beings-based research is to develop theoretical knowledge about unitary, irreducible, indivisible human and environmental fields.

Within the context of the Science of Unitary Human Beings, virtually any setting and any person or group is appropriate for study, with the proviso that both person or group and environment are taken into account. Both basic and applied research are needed to continue to develop nursing knowledge. The use of a variety of qualitative and quantitative research methods, including philosophic and descriptive approaches, is considered appropriate. Some approaches already identified are Husserlian phenomenology, existentialism, ecological thinking, dialectical thinking, and historical inquiries, as well as methods that focus on the uniqueness of each person, such as imagery, direct questioning, personal structural analysis, and the Q-sort. Case studies and longitudinal research designs that focus on the identification of human and environmental field patterns are more appropriate than cross-

sectional designs. In addition, although descriptive and correlational designs are consistent with the Science of Unitary Human Beings, strict experimental designs are of questionable value. However, quasi-experimental and experimental designs may be required to test some theoretical propositions derived from the Science of Unitary Human Beings. A growing number of instruments have been directly derived from the Science of Unitary Human Beings.

Data analysis techniques must take the unitary nature of human beings and the integrality of the human and environmental energy fields into account. Consequently, the use of standard data analysis techniques that employ the components of the variance model of statistics is precluded, for this statistical model is logically inconsistent with the assumption of holism stating that the whole is greater than the sum of parts, and certainly is inconsistent with the view of person and environment as unitary and integral.

The emphasis on the integrality of human and environmental energy fields indicates that Science of Unitary Human Beings-based research will enhance understanding of the continuous mutual process of human and environmental energy fields and manifestations of changes in energy field patterns. Ultimately, Science of Unitary Human Beings-based research should yield a body of unique nursing knowledge.

Martha Alligood

I determined that the rational interpretive hermeneutic method is, indeed, compatible with the Science of Unitary Human Beings. First, inasmuch as textual material is interpreted in light of its original context, the rational interpretive hermeneutic method allows for the distinctive ontology and epistemology of the Science of Unitary Human Beings.

Second, the rational interpretive hermeneutic method has the capacity to interpret the meaning of the person/envi-

ment mutual process in a manner that is less abstract than pattern manifestation. Indeed, as I considered the Science of Unitary Human Beings research rules, I realized that the rational interpretive hermeneutic method actually facilitates understanding of the abstract concept of the pattern of person/environment mutual process at a relatively concrete level of nursing reality. This realization was bolstered by Reed's (1995) proposal to integrate a communicative model of reasoning into nursing inquiry.

Third, the rational interpretive hermeneutic method meets the purpose of developing theoretical knowledge about the phenomena encompassed by the Science of Unitary Human Beings. Fourth, the text to be examined provides the data, and the setting is addressed as context. Fifth, analysis is carried out in context, so that all requirements of the Science of Unitary Human Beings, such as acausality, can be met. And sixth, inasmuch as the rational interpretive hermeneutic method leads to the discovery or creation of theory within a particular context, it has the capacity to reveal a body of unique nursing knowledge when used to analyze the textual materials of the Science of Unitary Human Beings.

Jacqueline Fawcett

Martha Alligood is to be applauded for her innovative approach to the analysis of textual materials that are distinctively nursing in ontology and epistemology. Her completed and ongoing work with King's conceptual model of nursing has revealed a theory embedded in King's writings that neither other King scholars nor King herself had previously recognized. Her proposal to use the same methodology with Rogers' writings has the potential to uncover additional grand theories that will supplement the grand theories identified by Rogers herself, namely, the theories of accelerating evolution, manifestations of field patterning, and paranormal phenomena. In addi-

tion, the use of the rational interpretive hermeneutic method has the potential to discover middle-range theories in Rogers' writings.

I wonder, though, if rational hermeneutic interpretation can be used not only to analyze Rogers' writings but also the works of other scholars working within the context of Rogerian nursing science, as well as transcripts from interviews or other textual materials obtained from research participants?

Martha Alligood

Yes, the approach can be used to examine various published texts. Following the guidelines for the approach and addressing the criteria are important considerations. Bernstein (1983) cautions against the identification of mere reading as hermeneutics. The team approach is useful in this regard. Our team is currently made up of three faculty, a community member, two doctoral candidates, and two doctoral students but the membership of the team evolves from year to year. Orienting new members to the team includes introduction to the research approach, review of the criteria for interpretive hermeneutics, review of studies completed by the team, and orientation to the current research projects. This process keeps the criteria for the approach vital for the team.

Jacqueline Fawcett

Martha Alligood is to be applauded especially for her diligent and systematic examination of the compatibility of the methodology of rational interpretive hermeneutics with the ontology and epistemology of the Science of Unitary Human Beings. She has gone far beyond Allen's (1995) and Morse and colleagues' (1996) assertions that many qualitative methods, including the rational interpretive hermeneutic method, can be uncoupled from the parent frame of reference. By examining the rational interpretive hermeneutic method within the con-

text of the rules for Science of Unitary Human Beings-based research, Martha Alligood has clearly demonstrated that this method "fits" the science.

However, I do think that consideration now needs to be given to expanding the rule about research "subjects." Martha Alligood's proposal means that the subject matter of Science of Unitary Human Beings-based research is not limited to human beings and their environments but can be extended to encompass textual material.

Martha Alligood

It seems to me that the rule regarding subjects can be understood in more than one way. First of all, I believe you have spoken to this rule in your writing (Fawcett, 1995), where you have pointed out that conceptual models and nursing theories clarify what is relevant to the perspective and what is not. The model or theory specifies the subject boundary for the purpose of guiding and determining the significant issues to be considered in the science. Therefore, I would conclude that the rules inherent in the scientific process should be permitted to determine inclusions or exclusions as they become known and are consumed by the scientific community of scholars (Alligood, Gaylord, & Grace, under review). Secondly, with regard to the proviso, I have maintained for a long time that measurement of the person does measure their environment since they are integral theoretically, although it may do so indirectly. Therefore, subjects may deal with unitary human beings and their environments either directly or indirectly and that is an inclusive position open to varied conceptualizations of subjects.

Jacqueline Fawcett

I urge all of us to use Martha Alligood's work as a template to determine the compatibility of other qualitative and quantitative methodologies with the Science of Unitary Human Beings and with other concep-

tual models of nursing. Only when we do so will we be able to demonstrate to ourselves and the rest of the scholarly world that we have gone beyond borrowing methods, just as at least some of us have ceased to borrow conceptual models and theories. Would that we will someday be able to claim "shared methods," in the same sense that Stevens (1979) once discussed "shared theories." Such shared theories and methods are those that have been examined, tested, and found to be appropriate in the milieu of nursing science.

I also urge all of us to go beyond the possibility of "shared methods" to the creation of distinctive nursing methodologies. In particular, I would very much like us to go beyond Thorne and colleagues' (1997) recommendation for a distinctive qualitative method to the development of both qualitative and quantitative methodologies that are clearly compatible with nursing's unique conceptual models, including the Science of Unitary Human Beings. Even more, I would like us to eliminate the distinction between research and practice methodologies. For example, is it not possible to use the distinctive tools and techniques of pattern manifestation appraisal and deliberative mutual patterning, which currently are thought of as the practice methodology for the Science of Unitary Human Beings, as a methodology for practice and research? If the answer is "Yes," then we will have gone a great distance toward eliminating the so-called research-practice gap, and toward recognizing that nurse scholars embody the true integration of research and practice (see Alligood, 1994).

Martha Alligood

All of us can thank Martha E. Rogers for the many things that she contributed to our discipline over the span of her career. Arguably, her most important contribution is the clarification of a nursing ontology and epistemology. Martha Rogers was a scien-

tist of the first order, and when nurses were asking, "What is nursing?," she answered by pointing to a fundamental phenomenon of interest for the discipline--the unitary, irreducible, indivisible human being and environment in mutual process. She further explained how knowledge that would emerge from studies of that phenomenon was related to nursing practice in the service of humankind and society. Although Martha Rogers created an abstract framework, she never lost sight of nursing's ultimate practical purpose. Her conceptual system and writings attracted nurses from all over the world who have accepted the challenge to develop nursing science to guide nursing practice in changing times.

Continued progress in the 21st century is dependent on our maintaining sight of those guiding truths that Martha Rogers stated and restated throughout her career. If the Science of Unitary Human Beings is to fulfill Martha's dreams and our needs for a unique nursing science, we must focus on the science, recognize the dynamic character of its pattern, and reexamine the science as new ideas and methodologies for knowledge development are proposed. Then and only then will we keep the science alive. As Phillips (1996) pointed out, "Nursing models and theories provide multiple diverse and divergent nursing realities. These realities foster creative ideas and insights that are essential to the methods that are used to discover knowledge" (p. 48).

In conclusion, I have proposed a research methodology that can embrace these challenges but does not do so at the expense of the ontology and epistemology that Martha Rogers gave us. Her many writings are a gold mine of knowledge waiting to be discovered. My proposal to use the rational interpretive hermeneutic method to discover nursing theory in Martha Rogers' writings, breaks away from old rules. In particular, the proposed methodology fosters consideration of all of Martha Rogers' writings, not just her

most recent works. Hence, it is as worthwhile to analyze the text of Martha Rogers' 1970 book, *An Introduction to the Theoretical Basis of Nursing*, as it is to analyze the text of her more recent writings. As Martha said in that early work, "The significance of a principle may take on new dimensions of meaning beyond those envisioned by the formulator of the principle" (Rogers, 1970, p. 95). I know that Martha Rogers never wanted "yes-men" or "yes-women." Rather, she always wanted us to think and grow and develop, and to embrace the knowing of our time.

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PARTICIPATING, TRANSFORMING, CELEBRATING: THE DANCE OF UNITARY BECOMING

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This article is based on the author's keynote address at the Seventh Rogerian conference, June 1998, held at New York University.

Martha Rogers' (1994) legacy to nursing is the focus on the "irreducible human being and its environment, both defined as energy fields" (p. 33). For Rogers, this environment was not limited to one's neighborhood or community but encompassed space, the entire cosmos. The unitary wholeness she described bridges past and future in the sense of older and newer perspectives, those that have been with us and those newly emerging across disciplines. Her ideas are futuristic and visionary, yet they resonate with perennial themes found in the oldest traditions known to humankind across the globe.

In one of her last articles published in 1994, Rogers predicted that within the next two decades we will see changes that transcend anything we could imagine today. She wrote that there is a "growing unity and at the same time a marked increase in diversity and complexity on all fronts" (p. 33).

The theme of unity and diversity is a common one in philosophy as well as everyday life, one we struggle with as human beings in a pluralistic, multicultural world. It is important in our efforts to advance nursing science, specifically the Science of Unitary Human Beings, that we focus on unity while acknowledging and honoring

diversity. This is why I have chosen to highlight what I see as parallel themes resonating across the years and onward to illustrate the timeless contribution Rogers made not only to nursing but to knowledge about humankind that has relevance beyond nursing.

Despite the importance of Rogerian nursing science, now and in the evolving future, it is not the most widely used framework in nursing curricula or nursing practice settings. The Society of Rogerian Scholars is not the largest nursing organization, and the Rogerian conferences are not the best attended nursing conferences. As Sheila Cheema, my colleague on *Visions: The Journal of Rogerian Nursing Science*, keeps asking, Why is this so? And what can we do about it? Perhaps forging linkages via focusing on similarities rather than differences is one approach. At least it's the one I've chosen for this article.

Integral wholeness, unity, and diversity are themes held in common across a variety of perspectives, including the wisdom traditions of the East and West and the new physics. The word "whole" shares a common Indo-European root in "kailo-" with other words such as health, heal, holy, and hallow (Soukanhov et al., 1992), giving us the mantra of whole, heal, holy. Wholeness, healing, and holiness flowing together—a core theme in the wisdom traditions mentioned earlier. I chose to focus on one, the Western wisdom or mystery tradition and its view of the Qabalah, and the parallels to

Key Words

Rogerian nursing science, pandimensionality, Qabalah, healing

Rogerian nursing science that I, a novice in the study of this tradition, see emerging as I go deeper into that study. I'll also offer some ideas about newer perspectives emerging today that link to Rogerian nursing science in the belief that one of the ways to facilitate the growing and disseminating of that science is to highlight such parallels. Rogerian nursing science is a bridge spanning those ideas that have been with us for some time and those that are newly emerging.

The Qabalah is the framework of the Western mystery tradition as well as the Jewish mystical tradition. As such it is believed to transmit the hidden wisdom of the universe. Gareth Knight (1965, p. 6) called it "the ground plan of the flower garden of mystical experience." As he explained, trying to describe mystical experience is like trying to describe the scent of a flower—you really need to smell the flower for yourself, because no words can adequately convey the scent. Similarly, you have to experience the mystical in order to know what it is.

The composite symbol or glyph of the Qabalah is the Tree of Life; it represents simultaneously the human and the universe (see Diagram 1). Movement, change, and relationship are core concepts in the understanding of the Tree and its paths. The five spheres or Sephiroth in the middle, the Middle Pillar, correspond to the person; Kether is the Crown above the head, moving down through air (Daath), fire (Tiphareth), and water (Yesod) to Malkuth, earth below the feet. One moves up and down and around the Tree via the 32 paths of wisdom or states of consciousness (Kaplan, 1997). Thirty-one paths parallel the 31 nerves coming off the spinal cord while the 32nd corresponds to the complex of 12 cranial nerves. In other words, as Kaplan explains, the person is seen as a microcosm with everything in the body paralleling something in the forces of creation. Further correspon-

dences can be drawn between each Sephirah or sphere and archangels, angels, chakras, colors, the Tarot, astrological symbols, and more.

There are two Hebrew words for path, one referring to a public road, the other to a personal route, a "hidden path without markers or signposts" (Kaplan, 1997, p. 10). It is the latter word that is used for the paths of the Tree of Life. The paths, therefore, are "hidden, concealed, and transcendental" (p. 11). In order to attain mystical experience, people must learn for themselves how to travel the 32 paths. No two journeys are the same.

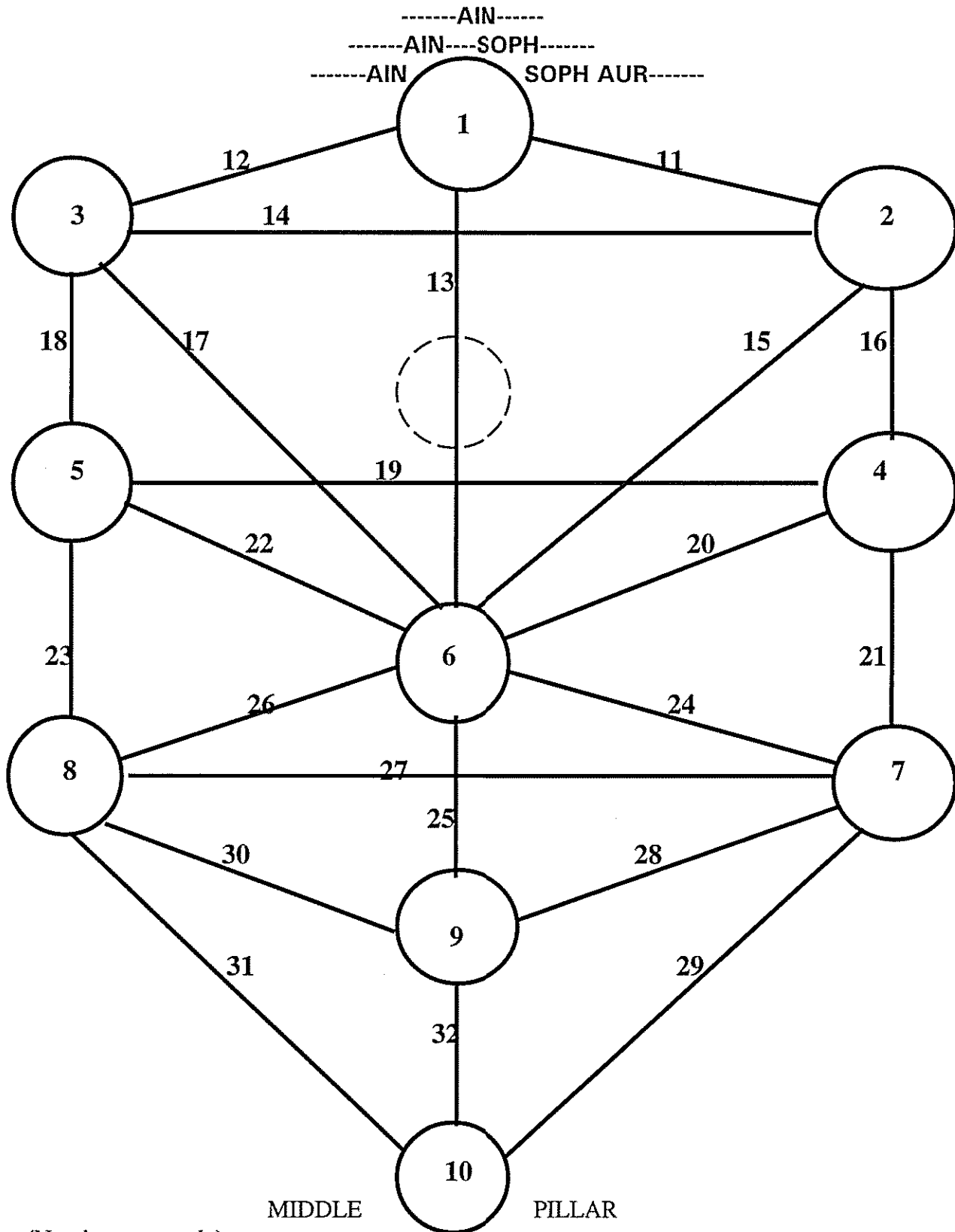
Both unity and diversity are represented on the Tree, top to bottom, bottom to top. No Sephirah or sphere on the Tree can be described in isolation from all the others. Rather, each can be seen as a holographic representation of the whole. No one path linking them can be described in isolation (Knight, 1965). On the Tree, all is interconnected relationship, whole not part.

Rabbi Herbert Weiner (no date) uses this Cosmic Tree of Life to illustrate unity and diversity. He asked, how does each individual leaf fulfill its own unique potential? He answered, by attaching more strongly to the twig, which is attached to the branch, which is attached to the trunk. All is one. Life flows through this connection. Once separated, the leaf that falls to the ground cannot root itself and continue its life as before. Life flowing through connection—this is a blessing, and the meaning of blessing, according to Wiener, is the ability to make connection.

Weiner (1980) further noted that the meaning of the phrase, "oneness of body-mind-spirit" is destroyed by the very naming of the three, so we have to intuit its meaning. He offered the analogy of a volcano pouring out lava. The lava starts as a gas, becoming liquid, then becoming solid as stone, but it's all one flow. So with the human being as its representation on the

Diagram 1

TheTree of Life



(Not drawn to scale)

Tree of Life shows. The person has feet grounded on earth but extends upward in a transmutation of flesh into the nonmaterial, but all is one vibration rhythmically back and forth in continuous movement (Weiner, 1980). Epstein (1994) wrote that in the Jewish mystical tradition as well as in Christian mysticism, "the spheres of physical and spiritual life are one—that is, body and spirit are infinitely connected" (p. 236).

In a 1978 handout of what she was then calling her Postulated Correlates of Unitary Human Development, Rogers included one that is interesting in light of this discussion: more "visibility," less "visibility," ethereal. At some point she changed this to "materiality - ethereality." In a 1984 interview with Barbara Sarter, contained in the appendix of Sarter's *The Stream of Becoming*, published in 1988, Rogers indicated that she wanted to retain the idea in this "correlate" but planned to change words again. The misinterpretation, from her view, was that people were seeing this as mass vs. spirit, and she was trying to convey something about the experience, "experienced as ethereal" (p. 131). She indicated that awareness is a manifestation of pattern as are "consciousness and soul—" as she said, "whatever one means by these—...that derive out of the system" (p. 123). She reiterated that her system is a synthesis and transcendence with its own unity. Rogers also indicated in a 1983 interview with Sarter (1988) that mystical awareness is a manifestation of pattern and that patterning does not need a physical body to persist. However, by 1986 when the correlates were published (Malinski, 1986), Rogers had deleted this one entirely.

According to *The American Heritage Dictionary* (Soukanhov et al., 1992) ethereal has meanings such as lightness, heavenly or of the celestial spheres, and spiritual. The word that Rogers identified as problematic, at least in the interview with Sarter, was not ethereal but materiality because of its asso-

ciation with matter. In 1978 she also had a "correlate" of heaviness—lightness—weightless that was dropped, along with pragmatic—imaginative—visionary that was retained. The "patterning that does not need a physical body to persist" seems to reflect ethereal, weightless, and visionary—for me as I interpret Rogerian nursing science, if not for Rogers herself.

One thing that becomes clear from the study of the Qabalah is that what we interpret as polarities and dichotomies are not. As Rabbi Weiner explains, yes has no meaning in the absence of no. Rather than dichotomy we seem to be talking about paradox. As the philosopher-psychologist Steven Rosen (1994) wrote, paradox needs to be understood in its "Zen-related sense of a wholeness so uncompromising that it confounds the dichotomies built into ordinary thinking" (p. 120). According to Rosen, wholeness lies in the embodiment of paradox, where wholeness "is utterly fluid and dynamic, an unobstructed boundless flow" (p. 269). Parse and Parse nurses have certainly done seminal work in nursing theory in this area.

Along the Tree, polarity means the flowing of force or energy "from a sphere of high pressure to a sphere of low pressure; high and low being always relative terms" (Fortune, 1935/1984, p. 229). It is this rhythmic swing, not stability, that is the basis of life (Fortune, 1935/1984). If we look at it from the perspective of time, there is no split in terms of past, present, future—all is one. If we look at it from the perspective of healing, if healing of the body is to occur, one has to heal the whole (Weiner, 1980) because the whole is more than the physical body. Behind Kether, the Crown, the top Sephirah on the tree, is negative existence, the "nothingness..that is already something" (Knight, 1965, p. 30) because it is the realm where all potentials exist and from which all life comes. The Veils of Negative Existence are called in Hebrew Ain,

Ain Soph, and Ain Soph Aur, meaning Negativity, the Limitless, and The Limitless Light, limitless nothingness blazing with light (Knight, 1965) and emanating life. The Hebrew word Ain ("I-in") represents nothing in the sense of all potentials, the great nothing out of which everything comes. It is a place where anything can happen. Meditative awareness is recommended in the study of the Qabalah as the way to access meaning here. According to Weiner (1980), one can go into it through joy or despair, laughter or tears, and access an image of healing to manifest in the physical.

As an example of Qabalistic healing, Israel Regardie (1937/1964) published a book in 1937 called *The Art of True Healing* which is based on the Tree of Life and working with the universal life force or energy. An underlying assumption is that "immutable rhythm is everywhere manifest in the universe" (p. 5). Relaxation, rhythmical breathing, meditation, visualization, and prayer help us attune to this energy. Regardie offers exercises called the circulation of force and the fountain to perform daily to direct this flow and facilitate health. These exercises are based on the concept of the human as an energy being. What is circulating is energy in a continually moving flow. Although he uses the language of willing and directing, he is really stressing the importance of conscious awareness as "the magical key" (p. 23) to creatively participating in this flowing energy.

For Rogers, field is the unifying concept and energy signifies that it is dynamic; therefore, we have "infinite dynamic unity" (Sarter, 1988, p. 114) in Rogerian nursing science. Personally I define energy as the creative potential continuously flowing throughout the universe. Neither description seems incongruent with the Qabalistic view.

Rogers also identified pattern or patterning as the operative word rather than wave frequency. She tried to describe

nonrepeating rhythmicities and accelerating change by using wave frequency, for example, in the Manifestations of Field Patterning, as she renamed the old correlates. The persistent difficulty, of course, is what appears to be a linear progression that wasn't solved by simply dropping the old "from—to" as she used these pattern manifestations to describe the process of change, not the direction of change. The use of high pressure and low pressure, relative though they may be, to describe moving along the Tree shares this difficulty, when what is being described by both seems to be more of a rhythmical swing up and down rather than higher—lower, faster—slower. Just as yes has no meaning without no, high has no meaning without low, fast no meaning without slow. They are relative terms, not value terms, and Rogers described diversity as relative and as a manifestation of patterning. She proposed that human and environmental fields are unique and change in mutual process, not through cause and effect. Rogers (Sarter, 1988) also made clear that her nursing science made no claims to first principles or final endings because, she believed, no one knows what they are in a world that is integral and without boundaries.

Rogers always had a problem with the idea of intentional, purposive, goal-directed behavior because of her belief that multiple potentials exist simultaneously; some will be actualized, some won't (Sarter, 1988). What we come to is a focused, participatory awareness. This is captured in Barrett's (1986) theory of power as knowing participation in change and in Schneider's (1995) concept of focusing awareness, derived from her qualitative study of extraordinary healing. Schneider defined focusing awareness as "becoming increasingly aware and using that awareness to make decisions and to participate more fully in the healing process" (p. 35). For me this is what intentionality is all about, not willing a par-

ticular outcome but mindful awareness, focusing awareness, to participate more fully in transformative potentials.

Awareness is a key to participating in these transformative potentials because the process of becoming in Rogerian nursing science is a unitary one. Mystical awareness is a pandimensional awareness of the mutual human-environment field process (integrality), a manifestation of high frequency patterning (resonancy), and associated with innovative, creative, diverse experiences (helicy), reflective of what is traditionally called spirituality (Malinski, 1994). Cowling (1986), who studied mystical experience, differentiation, and creativity at a time when the current Manifestations of Field Patterning were known as the correlates and included ones Rogers later dropped, drew parallels between Rogers' description of an "increasingly diverse field pattern with perceptual features of *timelessness, continuousness, beyond waking, transcendence, visionary, and ethereal*" and what are commonly called altered states of consciousness (p. 132). Perhaps the deleted manifestations, in this case continuousness, transcendence, and ethereal, could be explored again in light of the patterning that persists beyond the physical body. They are reflected, for example, in poetic expressions exploring the meaning of dying, such as this poem used by John Phillips for years and included in the packet of one of the earlier Rogerian conferences which I recently found in a pamphlet called "Release Into Light: Meditations for Those Who Mourn," distributed by the Theosophical Society of the Eastern Mystery tradition.

Let us not cling to mourning,
Do not stand on my grave and
weep.

I am not there

I do not sleep.

I am a thousand winds that blow,
I am the diamond glints on snow,
I am the sunlight opened grain,

I am the gentle autumn's rain.

When you awaken in the morning's
hush

I am the swift uplifting rush
of quiet birds in circled flight,
I am the soft stars that shine at night.

Do not stand on my grave and cry,
I am not there
I did not die.

(Anonymous)

And another one, from a Carmelite Monastery in Tallow County Waterford, Ireland:

My death is nothing at all...I have only slipped away into the next room. Whatever we were to each other, that we are still. Call me by my old familiar name, speak to me in the easy way which you have always used. Laugh as we always laughed together. Play, smile, think of me, pray for me. Let my name be the household word that it always was. Let it be spoken without effort. Life means all that it ever meant. It is the same as it ever was; there is absolutely unbroken continuity. Why should I be out of your mind because I am out of your sight? I am but waiting for you, for an interval, somewhere very near just around the corner. All is well. Nothing is past, nothing is lost. One brief moment and all will be as it was before, only better, infinitely happier and forever....

For me, these poems reflect a view of death as the patterning that persists when the physical body does not.

I'd like to turn now to parallels in modern science, using just one of the numerous examples that could be explored. It's a 1997 book by Dean Radin, Director of the Consciousness Research Laboratory at the University of Nevada, entitled *The Con-*

scious Universe: The Scientific Truth of Psychic Phenomena. In discussing the newly evolving assumptions in a science of wholeness as opposed to a science of separateness, Radin states that this new metaphysics is shifting toward a mystical worldview. The essence of this mysticism is the realization of the interconnectedness of relationships and of possibilities, not certainties, as the fundamental reality. Like Capra before him in the *Tao of Physics*, first published in 1975 and again in its 3rd edition in 1991, he notes that this interconnectedness finds parallels in ancient doctrines and modern science. Unfortunately, Rogerian nursing science is not included in such discussions of modern science, another reason to demonstrate its implications and applications for the wider world of knowledge. Recent developments in quantum field and relativity theories and in the field of psi, or psychic phenomena, demonstrate a deep interconnectedness that "embraces everything, unbound by the usual limitations of time and space" (p. 270). Deep interconnectedness suggests a unitary phenomenon, not a duality such as mind—matter, inner—outer, etc. Radin cites four developments related to quantum theory that may seem nonsensical yet have been empirically demonstrated. The first development is nonlocality, where a pair of particles once in contact but now too far apart to interact or communicate across space—at least in the older view of science—have been shown to instantaneously behave in ways that are correlated, demonstrating that they are, in some fashion, still connected. Radin suggests that psi experiences may indeed be manifestations of nonlocal interconnectedness.

The second development involves theories proposed in quantum biology that suggest nonlocality plays a role in the brain and manifests in consciousness. Radin cites the work of Stuart Hameroff, an anesthesiologist from the University of Arizona, whose

interest in the transition between conscious self-awareness and unconsciousness has led him to explore parallels between quantum properties and consciousness.

For example, the "unitary sense of self" resembles the properties of quantum coherence and nonlocality; nondeterministic free will resembles quantum indeterminacy; intuitive reasoning resembles quantum computing; and differences and transitions between pre-, sub-, and nonconscious processes resemble how quantum possibilities become hard realities. (p. 285)

The third development is the realization that there is no theoretical minimum energy requirement for transmitting information. Formerly it was assumed that energy had to be involved in transmitting information from one location to another. Now it seems that there is no physical energy requirement as a barrier to transmitting information across distances.

The fourth development is quantum teleportation, a means of instantaneous information transfer, called quantum voodoo by its developers. Radin quotes Charles Bennett of IBM, one of the developers: Quantum "entanglement," an aspect of nonlocality, "establishes a connection between two particles in such a way that the 'quantum essence of the particle' can be passed from one to the other... 'like a curse passing from a lock of hair back to its original owner'" (p. 286).

Radin suggests that these four developments suggest a way of thinking about psi that may yet bring it into the mainstream of science. They certainly seem to explicate Rogers' (1992) pandimensionality, "a non-linear domain without temporal or spatial attributes." Her theory of the emergence of paranormal phenomena suggests pandimensional awareness as the framework for such phenomena. She always suggested that there was nothing "paranor-

mal" about them, rather they are "normal" examples of pandimensional awareness and experience.

Such pandimensional experiences include telepathy, clairvoyance, and perception across time. Radin examined and critiqued the available research in these areas. He concluded, regarding telepathy, "that people sometimes get small amounts of specific information from a distance without the use of ordinary senses" (p. 88). Regarding clairvoyance and other perception at a distance, "psi perception operates between minds and through space" (p. 109), so the ability to perceive at a distance, again beyond the use of ordinary senses, is a potential. Regarding perception across time, or precognition, Radin concluded, "The present may not be where-or when-we think it is" (p. 125).

He goes on to discuss what we know of as noninvasive health patterning modalities in Rogerian nursing science, such as healing with prayer, distant healing, use of touch, and various ways belief becomes biology. He also discusses field consciousness, defined as a single underlying reality, "a continuum of nonlocal intelligence, permeating space and time" (p. 159). He offered many illustrations of this group consciousness, or group field. I'll describe one.

Radin and his colleagues asked both Dr. Roger Nelson at Princeton University and Professor Dick Bierman at the University of Amsterdam to run random number generators in their labs while Radin's group ran RNGs in theirs close to the time that the O. J. Simpson verdict was expected. The random number generators constitute random physical systems where, under ordinary conditions, the system averages zero order. If order appears, it can be detected statistically very quickly. The experimenters were interested in any changes that took place relative to changes in the focused attention of large groups of people. The attention of people worldwide was antici-

pated to be focused on the announcement of the verdict. It was later determined that some half-billion people watched or listened to the live broadcast of the verdict. Around the time the preshows began, an unexpected degree of order was detected in the RNGs which then declined back into random behavior until the time the clerk read the verdict, at which point it peaked to its highest point. This finding held in all three laboratories and demonstrates the focused awareness of the group field.

Radin speculates that, perhaps, global violence is linked to the angry, aggressive thoughts of people around the world. It's not only the behavior but the thought that contributes to social disorder. Conversely, peaceful protests and thoughts can facilitate order and harmony. This is encapsulated in the phrase, Walk your talk.

This field consciousness is discussed in the Qabalah as the group mind or group soul. In Rogerian science you have the postulates of energy field, openness, pandimensionality, and pattern at work.

According to Rogers (1994), the primary purpose of nursing is to promote well-being of all people, wherever they are, by using nursing knowledge in non-invasive ways. She believed this knowledge is contained within the Science of Unitary Human Beings, but she also envisioned a "new world of transcendent unity," encompassing earth and space (Rogers, 1990, p. 375). Therefore, we must use imagination and visioning to create new ways to promote this well-being and celebrate this dance of unitary becoming.

This is probably the major challenge facing us in this time of managed care and focus on outcomes. One mushrooming trend is for more care to be delivered at home and for family members to provide that care, often in the absence of adequate support such as a health care provider who could nurture and tend to the life process of all family members. The visiting nurse spends

enough time to demonstrate a procedure and then disappears for a week. For many this is self-care agency and dependent-care agency carried to the extreme. However, it is not necessarily the nurse's choice—it's what will be reimbursed. We all need to work together to develop the transformative, caring partnerships required if we truly believe that all life exists in an integral flow of field patterning. Every community needs an autonomous nursing center, a health patterning center, where practice is based on Rogerian nursing science and the family participates in the health patterning process. Rogerian nurses would provide comprehensive care in the center, the home, school, and other settings as well as be available to work with their clients throughout hospitalization and discharge back home or to a tertiary care facility.

The terms "alternative medicine," "complementary medicine," and "integrative medicine" are problematic in that all focus on medicine as the primary discipline, not nursing. The *Journal of the American Medical Association* featured an article supposedly debunking Therapeutic Touch, a health patterning modality strongly identified with nursing, one month (Rosa, Rosa, Sarner, & Barrett, 1998) and an article the next month reaffirming the public's preferences for complementary modalities, especially among the better educated and more affluent (Astin, 1998). Although many physicians affirm the philosophy of wholeness underlying these modalities, more seem to gravitate to them because that's where a large chunk of the consumer's money is going. Rogerian nurses need to use the language of health patterning modalities and ground them in Rogerian nursing science as we discuss what we do and what we have to offer to colleagues and clients.

Participants at the 7th Rogerian Conference, held at New York University in June, 1998, heard many fine presentations in which Rogerians presented their ideas for

transforming nursing practice, nursing ethics, the health care delivery system, and health care policy. I encourage us all to participate knowingly in the growing and disseminating of Rogerian nursing science across the globe.

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PERCEPTION OF MENOPAUSE AND ITS APPLICATION TO ROGERS' SCIENCE OF UNITARY HUMAN BEINGS

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ABSTRACT

This paper examines the perception of menopause, its impact on women's health care, and how it applies to the conceptual model of nursing theorist Martha E. Rogers. Negative social myths and the disease-oriented medical view of menopause are contrasted with a holistic nursing approach to perimenopausal care. Rogers' Science of Unitary Human Beings, with its conception of aging as a dynamic human/environmental process of increasing complexity and diversity, is explored. Examples of Rogerian science-based nursing practice and research are presented as positive, visionary ways to transform the health care of women.

A woman's last menstrual cycle, or menopause, is considered a landmark event in defining aging in women. Surrounding this single physiologic event, which occurs at the average age of 51, is a period of transition from the reproductive to the post-reproductive phase of a woman's life, referred to as the perimenopause. Currently there are over 16.5 million women in the United States between the ages of 45 and 54 years of age who are experiencing this phase of life (Statistical Abstract of the United States, 1997). Attitudes toward menopause vary and are affected by cultural values, the prevalence of myths and misconceptions about menopausal effects, and the medical view of menopause as an estrogen deficiency disease with pathologic sequelae (Wagner, Kuhn, Petry, & Talbert, 1995). This paper examines the perception of menopause and aging in women, its relevance to the discipline of nursing, and how this phe-

nomenon can be understood from the perspective of Martha Rogers' Science of Unitary Human Beings.

In Western civilization, menopause has historically been viewed negatively, associated with loss of physical attractiveness, the end of a woman's sex life, and psychological imbalance (McKeon, 1988). Midlife women who complained of hot flashes, menstrual changes, sleep disturbances, and forgetfulness were considered hysterical or hypochondriacal, until scientific research in the 20th century validated the physical effects of hormones (Jones & Jones, 1996). In the article, "Dispelling Menopause Myths," McKeon (1988) stressed the importance of examining attitudes about menopause and the nurse's role in exposing negative stereotypes, promoting positive attitudes, and providing accurate, objective information. She cited research showing there is no increase in depression during menopause and that the rate of depression in middle-aged women is similar to that of middle-aged men. Yet, women may internalize negative stereotypes and beliefs about declining physical and mental health, loss of sexuality, and diminished attractiveness can become self-fulfilling prophecies (McKeon, 1988).

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Perception of menopause has also been examined using a cross-cultural perspective. Western cultural values that idealize youthfulness and disrespect the aged have a role in lowering the peri-menopausal woman's self-esteem, with the message that one is "over the hill" after age 40 (Wagner et al., 1995). In the Rajput Indian society, in which post-reproductive age women gain increased status and freedom, menopausal symptoms are reportedly not as common (Fishbein, 1992).

The traditional medical definition of menopause emphasizes the physiological cessation of ovulation and menstruation due to depletion of oocytes, the decline in estrogen and other ovarian hormones, and the end of reproductive capability. Symptoms of menopause are attributed to the effects of hormonal changes and include vasomotor "hot flashes," decreased libido, vaginal atrophy, emotional instability, and depression. Hormone replacement therapy (HRT) is considered the treatment of choice for perimenopausal symptoms. Medical research has documented HRT's preventive health benefits, with evidence that it may lower the rate of cardiovascular disease, Alzheimer's disease, and osteoporosis in women. However, information regarding long-term HRT effects is insufficient. Recent analysis of the Nurses' Health Study shows a significant association between long-term use of HRT and increased breast cancer rates (Speroff, 1996). Current medical opinion advocates an individualized approach to prescribing hormones, based on the patient's symptomatology and risk factors.

In contrast to the disease-oriented, medical perspective of menopause, a holistic philosophy that views menopause as a normal part of the aging process has emerged within contemporary U.S. health care. This approach focuses not only on a woman's physical symptoms, but also addresses the multiple dimensions of the mid-life experience. Disenchanted with traditional medical

care, women are exploring alternative therapies such as chiropractic, spiritual healing, herbal medicine, homeopathy and acupuncture. Societal trends that have contributed to this revolutionary perspective include the increasing population of perimenopausal women, as baby boomers and the feminist generation mature; the increasing number of women physicians; and the use of nurse practitioners and nurse midwives to provide primary health care to women (Harper, 1990).

The nurse's perception of menopause has a significant impact upon the way s/he provides care to mid-life patients. The traditional biomedical nursing orientation considers the menopausal, aging person as being in a state of hormonal deficiency that leads to pathological deterioration. Aging is viewed as loss of function, as parts wear out and become less efficient, leading to retirement from society. The environment for the aging person becomes more limited and controlled as the person needs increasingly more assistance. Health would be described as the amount of function each body system retains: what is within normal limits and what health deficits exist. Changes in health are considered to be predictable and controllable and to occur in a linear, chronological time-frame. The nurse's role is to obtain subjective and objective data from the patient in a health care setting, assess the patient's disease state, and devise a plan of care in collaboration with the physician and according to the medical protocol.

A radical shift from this traditional biomedical perspective of nursing was envisioned by the nursing theorist, Martha Rogers. In 1970 she introduced her conceptual model, the Science of Unitary Human Beings. In this model, the concept of person is defined as a unitary human energy field that is infinite and integral with the environmental energy field; both change continuously in creative, innovative ways, progressively reaching towards multiple potentialities (Fawcett, 1995). Menopause and aging

are defined as a process of growing complexity, heterogeneity, and diversity, and humans have the capacity to participate knowingly in the change process (Barrett, 1990). Rogers is critical of the concept of health, considering health and disease to be culturally defined and value-laden ways of labeling and limiting human potential and experience. She warned, "categorical diseases, so-called pathologic states, and particulate phenomena are dangerously misleading bases for determining the health status of either individuals or populations" (Rogers, 1994b, p.222). Human and environmental fields are identified by patterning, which flows in continuous, non-repeating rhythms. Health patterning is defined as the mutual participation of nurse and patient in a caring, creative partnership that facilitates mutual well-being (Malinski, 1997). The focus of nursing is to participate in the unitary human/environmental process of change.

Rogers' conceptual perspective of human evolution differs from the typical use of age as a marker of human development (Cowling, 1990). Human evolution is an emerging field patterning that is a manifestation of the human/environmental field process. Energy field patterning proceeds pandimensionally, that is, without space or time limitations, in a non-linear, acausal reality. The human being, characterized by the capacity for awareness and the power to choose behaviors, participates knowingly in the life process, and moves toward maximum fulfillment of potential (Fawcett, 1995).

In Rogers' conceptual framework, the aging woman is continuously evolving, growing and changing with her environment. Three principles of homeodynamics describe the nature and direction of change: resonancy, helicy, and integrality (Rogers, 1994a). Resonancy refers to the continuous change from lower to higher frequency wave patterns in human and environmental fields. The change that occurs with meno-

pause can be viewed as a modulation in wave frequency patterns. A human energy field pattern is integral with its own unique environmental field pattern. The mid-life woman who lives in a social, cultural and medical environment that perceives menopause to be a negative, self-diminishing condition, may manifest disharmonious, low frequency field patterns such as sadness, fatigue, or hopelessness.

The Rogerian nurse recognizes the significance of the dynamic process of human and environmental wave patterns and understands that by being "in tune" and aware of the unique human experience, the nurse can enter into the process of healing change with her patient. The nurse focuses on the mid-life woman's experience and perception of the menopause and encourages her to describe her feelings, physical sensations, and beliefs. Mutual exploration of reality and sharing of experience is crucial to the nurse/patient partnership and to the process of promoting well-being (Horvath, 1994).

The principle of helicy describes human and environmental field pattern change as continuous, innovative, unpredictable and increasingly diverse (Rogers, 1994a). The Rogerian nurse regards menopause as part of life's evolutionary changes. The mid-life woman may experience the departure of her grown-up children from her home. Feelings of not being needed may be a manifestation of being out of synchrony with her environment. From this life pattern change, a new realization and excitement may emerge if she perceives the empty nest as freedom from previous obligations and worries. The opportunity to embark in new directions emerges in the evolutionary flow of life.

Integrality refers to the continuous mutual human and environmental field process (Rogers, 1994a). Nursing's evolving knowledge base comes from this mutual process, and differentiates nursing from other disciplines (Malinski, 1997). In the

biomedical model, a patient's symptoms are manifestations of disease and are treated by the practitioner with prescribed therapy, such as medication. For example, menopausal moodiness would be considered secondary to estrogen deficiency, and the patient would be given a prescription for exogenous estrogen. The Rogerian nurse looks at the mid-life woman's behavior as a manifestation of the whole person/environmental field. After appraising the pattern manifestation, the nurse and patient participate together to explore therapeutic options and create change (Barrett, 1990). Non-traditional modalities, such as music, art, poetry, journaling, or meditation, may be used to potentiate awareness and expression of feelings, experiences and beliefs about menopause and aging. A participatory process is reflective of the belief in the self-healing capacity of human beings (Malinski, 1997). As Rogers stated, "resolution of health problems is directly related to the dynamic innovative potentialities of life to transcend itself" (Rogers, 1994b, p.222).

Using Rogers' conceptual framework, the nurse can create health interventions for the emerging menopausal woman, with the purpose of facilitating unitary well-being and mutual participation in evolutionary change (Malinski, 1997). Focusing on the human/environmental field life process, health patterns are identified by the mid-life woman and the nurse. Barrett (1990) calls this pattern manifestation appraisal. The second phase of the process is called deliberative mutual patterning or health patterning, and happens as the nurse and mid-life woman mutually choose options and make health pattern changes to promote health, wholeness and harmony.

In Rogerian nursing practice, three phenomena of concern are perception, experience and expression. The nurse and client explore and share their perceptions and experience of menopause, mid-life and the meaning of aging. Mutual sharing of

knowledge occurs in authentic, caring relationships. In addition to dialogue or question and answer sessions, modalities such as breathing and centering exercises, Therapeutic Touch, descriptive dream experience, and creative imagery are used to enhance awareness and facilitate expression of life experience. The environment in which the process of health patterning occurs may be the clinic, office, or a natural setting, and should be perceived as a "healing place" (Carboni, 1995b) that respects and encourages the opening up of expression and communication (Horvath, 1994). The mid-life women's clinic could display art and poetry created by older women and play music by women composers or musicians, which serves as affirmation of the dynamic diversity and potentiality of aging women. Exposing women to Eastern philosophy with its alternative view of aging, can also be therapeutic. Malinski used passages from the *Tao Te Ching* to provoke discussion of life's meaning with clients in her nursing practice (Malinski, 1994).

In addition to using creative health patterning modalities and innovative practice settings, nurses can develop diverse educational programs that are supportive of unitary human/environmental well-being (Malinski, 1997). Knowledge of mid-life issues, concerns, and health care options can be shared by establishing support groups, classes, workshops, field trips or retreats. Information about hormone replacement, diet, exercise, and alternative therapies such as herbs, acupuncture and homeopathy can be explored.

Nurses who provide health care to mid-life women can utilize and participate in Rogerian science-based research to increase understanding of the nature of human evolution and its multiple, unpredictable potentialities. Basic research examines the manifestations of human and environmental field patterns, and helps develop theoretical knowledge. Applied research tests this

knowledge in nursing practice (Fawcett, 1995). Carboni (1995a) has presented an original research methodology called the Rogerian process of inquiry. According to this methodology, the researcher and participants engage in a mutual process of open inquiry. Shared awareness and understanding of phenomena emerge from the process of mutual exploration and discovery. Qualitative methods are used, because quantitative information is, in essence, fragmented. The person is the primary data-gathering instrument, as only a human is sufficiently sensitive to pandimensional potentialities. All forms of knowing are legitimate, including sensory and intuitive. Insights gained from research are visionary rather than predictive and are continuously open to new and changing insights.

Possible Rogerian research topics that explore aspects of perception of menopause include:

1. The health history dialogue between the menopausal woman and nurse: its importance in unitary human and environmental field assessment.

2. Educational programs that help empower the mid-life woman to make health care changes.

3. Perception of a "healing" environment: the women's health care clinic.

Rogers' conceptual model, with its optimistic view of aging as part of the life process of evolutionary becoming, gives it exciting, unlimited potential for application to health care of the menopausal woman. It frees menopause from the label of being a hormone-deficiency disease, as this distorts the pandimensional meaning and experience of the mid-life woman. The Science of Unitary Human Beings is specific to nursing and departs from the paternalistic, hierarchical relationship between the health care provider and patient. Using Rogers' framework, the mid-life woman and nurse form an authentic, caring partnership that mutually benefits both individuals. Because Rogers'

model advocates patient participation, health promotion, and the use of non-invasive healing modalities, it is also in agreement with the tenets of current health care reform.

In conclusion, Rogers' Science of Unitary Human Beings calls for a transformation of health care for the menopausal or mid-life woman. In contrast to the negative, life-diminishing perception of menopause perpetrated by Western cultural myths and the disease-oriented medical view, a Rogerian definition of menopause and aging focuses on a continuous process of dynamic, diversifying change, of evolutionary becoming. The Rogerian nurse enters into a partnership with the mid-life woman. Through mutual sharing and exploration of knowledge, perceptions, and experience, choices that promote health and well-being emerge.

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THE IDEA OF ENERGY AS PHENOMENON AND ROGERIAN SCIENCE: ARE THEY CONGRUENT?

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ABSTRACT

*A philosophical inquiry into the question of "what is energy?" revealed two paradigmatic ideas that appear to have originated with Aristotle's concept of *energeia*: energy can be viewed as part of a causal process, or energy can be viewed as a phenomenon, an actuality in and of itself. Both ideas are prevalent in the various sciences today and are either explicitly or implicitly evident in nursing theory, research, and practice. The Science of Unitary Human Beings reflects the view of energy as a phenomenon; however, some ideas emerge within the context of energy as a phenomenon that are seemingly incongruent with Rogerian science. This paper addresses these ostensible differences along with obvious congruencies.*

Aristotle (n.d./1984) created the concept of *energeia* to denote actual physical entities (actualities), and he also used it loosely to explain the process of actualizing potentials. These Aristotelian ideas are evident in literature related to the modern concept of energy; energy can be viewed as a phenomenon, an actuality or thing with an inherent ability to change, or as part of a process resulting in change (Todaro-Franceschi, 1997, in press)¹. Some of the newer physical theories lend credence to the idea of energy as a phenomenon (Bohm, 1980; Bohr, 1963; Einstein, 1954; Heisenberg, 1958; Lorenz, 1993; Prigogine & Stengers, 1984; Sheldrake, 1981, 1991). Conversely, classical theories contributed to the formation of the idea that energy is part of a causal process (Aquinas, n.d./1948; Descartes, 1644/1972; Newton, 1704/1995).² These two disparate ideas of energy coincide with, and are of paramount

importance to, the conflicting paradigms that continue to exist in all of the sciences, including nursing.

In the idea of energy as part of a process, the universe is portrayed as mechanistic; things are viewed as particulate, and change comes about from efficient causes. In this view energy is gained, lost, transferred or transmitted and change is a consequence of cause and effect. In the idea of energy as a phenomenon the universe is portrayed as dynamic; all things are viewed as forming an intricate whole, and change emerges from the whole. In this view energy isn't exchanged, transmitted, lost or gained; instead, it is transforming or manifesting itself eternally and in unique ways.

In the Science of Unitary Human Beings (Rogers, 1992), energy is viewed as a phenomenon. For example, an electron does not have a particle or wave-like nature; it is the wave-particle (Bohr, 1963). According to Rogers (1970, 1992, 1994), humans and environments don't have energy fields, they *are* energy fields. Not only is everything an energy field, the fields are integral and infinite. Although this is congruent with the idea of energy as a phenomenon that has the inherent ability to change, there are a num-

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ber of underlying themes within the context of energy as a phenomenon that, at first glance, appear to be incompatible with Rogerian science.

Implicit in the idea of energy as a phenomenon are three basic tenets: 1) all is essentially one, 2) change is an inherent characteristic of the one phenomenon—energy, and 3) the changing, transforming nature of everything is purposive. In addition, a fourth tenet arises from the culmination of the previous three and goes beyond the realm of science: it would appear that *there is a reason for it all* (Todaro-Franceschi, 1997, in press)¹. The first three tenets will be discussed as they relate to Rogerian science, while leaving the fourth for readers to reflect upon and draw their own conclusions.

All is Essentially One

The ancient Greek metaphysics centered on the question of whether all of nature could be explained in terms of *one* or *many* substances. Accordingly, various individuals propounded that there is some *one* "thing" that is always conserved. Lucretius (n.d./1921), a pre-Socratic philosopher, alluded to this idea in his work on nature stating: "naught of what so seems perishes utterly, since Nature ever upbuilds one thing from another, suffering naught to come to birth but through some other's death" (p. 12.). Others, such as Thales, Anaximander, and Anaximenes, proposed that everything was essentially composed of one universal thing or substance; water, *aperion*, or air, respectively (Jaspers, 1966). Parmenides (n.d./1965), perhaps one of the most significant pre-Socratics, argued that "to be," means that all is one. He believed that being was unchangeable, eternal, and that everything in nature was completely unified.

The ancient Eastern philosophers, particularly the Hindus and Taoists, also noted the essential oneness of the universe, making no distinction between animate and

inanimate things (Chan, 1963; McGreal, 1995). The Confucian canon notes that all things are one. Common themes of oneness are also evident in ancient Indian philosophies, as Radhakrishnan and Moore (1957) noted: "almost all Indian philosophy believes that reality is *ultimately* one and *ultimately* spiritual" (p. xxv). A belief in the unity of all nature is also evident in the ancient Native American (Ywahoo, 1987), Aborigine (Jackomos & Fowell, 1992), and African (Turnbull, 1961) traditions.

In modern cosmology scientists assert that the universe evolved from some primordial energy, something so small that no one could even envision it (Hawking, 1988). In what is commonly referred to as the Big Bang theory, scientists imply that everything we see (and don't see) evolved from and thus essentially *is* a form of one thing. This theory of the origin of the universe has spawned a number of other theories, many of which try to unify the so-called four fundamental forces of nature: the gravitational, electromagnetic, weak nuclear, and strong nuclear forces.

One of the most profound of these theories is called superstrings (Davies & Brown, 1988). Superstrings theory also leads to the conclusion that all is essentially one—the all consisting of a multiplicity of minuscule strings resonating throughout the universe to comprise, once again, everything we see (and don't see). And then there is the new M-theory; the M standing for "Magic, Mystery, or Membrane" (Duff, 1998, p. 64) or "mother (as in mother of all theories)" (Johnson, 1998, p. 1). The M-theory combines superstrings with black holes and membranes, leading to another theory of everything, although still subsumed in the Big Bang theory. Interestingly, some of the work on the M-theory supports the theory that the universe is holographic, an idea that many Rogerians have favored for a long time.

Lastly, there are a number of inflation-

ary models of the Big Bang theory that have been around since the late 1970s. All of these models propose some type of inflation period during which a rapid spurt of cosmic growth occurred in the initial stages of the Big Bang. One of these models lends support to the idea that there may be multiverses; multiple and perhaps, parallel, universes (Linde, 1998). In this model it is held that there are numerous episodic periods of chaotic inflation in which cosmic bubbles inflate to produce multiple big bangs, thus implying, as cosmologist Andre Linde (1998) notes that, "the universe as a whole is immortal" (p. 102). Energy is never created or destroyed. To date, all the theories of the origin of the universe invoke the idea that everything arose from some *one* thing.

Einstein's (1954) relativity theory also supports the idea, albeit indirectly, that all is essentially one. By noting that mass and energy were interconvertible, Einstein laid the groundwork for quantum physics. As all matter was expected to have mass, it was believed that matter equals mass, leading to the supposition that energy equals matter. However, today we know from observation that this is not always the case; energy does not always *quite* equal matter. In fact, matter is only one form of energy. There appear to be many not so very tangible energy forms, for instance, the mass-less photon and the elusive neutrino, which for a long time was also believed not to have any mass. Not to mention the variety of virtual particles (as in hypothetical—no proof nor notable mass) that are posited to exist.

Wolfgang Pauli had posited the existence of the neutrino particle in the 1930's and today we know that there are three kinds: electron, muon, and tau-neutrinos (Browne, 1996). Recently, scientists have claimed that there is significant data to surmise that one kind of neutrino is, " 'disappearing' by changing, or oscillating, into another type of neutrino the detector can't see" (Normile, 1998, p. 1690). Apparently,

in order for this to happen the particle must have some mass. Of course, what they are really saying is that one form of energy is transforming itself into another form we can't, as of 1999, perceive. It is becoming increasingly evident that intangible as well as tangible forms of energy exist and that they are interconvertible. In essence, everything is made of the same one phenomenon, energy, which transforms and manifests itself in a multiplicity of ways.

The idea of energy as a phenomenon is further supported in quantum physics by Heisenberg's (1958) uncertainty principle, Bohr's (1963) complementarity principle, and the theory of nonlocality, arising from ideas put forth by Einstein (Davies, 1988). The uncertainty principle holds that it is impossible to measure more than one variable at a time in the microcosm; therefore, it is impossible to completely predict outcomes. In other words, scientists cannot measure both the position and the velocity of a particle simultaneously without changing the outcome, since by simply observing something it changes. Complementarity takes the uncertainty principle a step further by noting that on a quantum level nothing can be divided into parts. One must consider the whole.

The theory of nonlocality, first proposed by Einstein, Podolsky, and Rosen in the 1930s and further investigated by Bell in 1964, adds even more credence to the idea of energy as a phenomenon. The group of experiments performed which show that non-locality does indeed exist on a quantum level are called EPR experiments after Einstein, Podolsky, and Rosen (Davies, 1988). A particularly interesting EPR experiment performed with paired photons—light wave-particles—has shown that no matter what conditions are imposed on them, when split, the wave-particles still seem to know what is happening to each other. Researchers in Geneva have confirmed and extended this finding, noting that despite long dis-

tances two photons remain somehow connected (Johnson, 1997). Briggs and Peat (1984) clearly noted the implications of nonlocality: "...wholeness in this case amounts to asserting that there is no here and there or that here is identical to there" (p. 89).

In her principle of integrality, Rogers (1992) emphasized the idea of wholeness. Even though Rogers posited that all things were distinctively unique, she also asserted that the human and environmental energy fields are inseparable and infinite, transcending space and time and forever actualizing potentials. Yet, Phillips (1994) noted that people are often confused by the idea of the integrality of the human and environmental fields, leading them to erroneously suppose that these fields are one. He stated:

This misconception can be related to the literature that frequently describes humans as being one with the universe. Rogers has cogently shown that they are *not* one. She says that a pattern distinguishes each of these two fields; yet even though each field has a pattern, there is no separation of one field from the other. (p. 14)

But, if everything has evolved from, and is a manifestation of one thing, energy, then doesn't it stand to reason that everything is essentially one *in that sense*?

Energy manifests itself in a multiplicity of ways so that there are an infinite number of distinctively identifiable things with unique patterns. However, because they all are of a common nature—they all are manifestations of *one* thing—there are no separate parts. They are integral, for they *are in essence one*. This is not inconsistent with Rogers; instead, it reaffirms her thesis that everything is indeed integral and in mutual process.

Energy is one *phenomenon*, which is always changing; it is infinitely transforming and is never static. We may have the illusion

of a multiplicity of markedly different things, but in actuality they are really a multiplicity of manifestations of *energy*. This is where it might be helpful to discuss in more detail Rogers' postulate of pattern. Pattern, although an abstraction that cannot be perceived, is still indicative of some design, be it random or intentional. In Rogerian science, *pattern* denotes uniqueness, as Rogers noted in a discussion with faculty members at New York University (Malinski, 1986):

The pattern of my environmental field is different from each one of yours. Everything is always unique. [There may be] marked similarity but the same kind of argument I would use in relation to fingerprints, voiceprints...twinning—even those who are most alike are not identical, except to gross observation.(p13)

It could be argued that the very same things, which Rogers' noted to be similar, are similar because they are all manifestations of one thing, energy. But because the very nature of energy is such that it is always transforming, always changing, there can never be *two identical things*.

The idea of wholeness is gaining increased recognition in various scientific disciplines; however, it is often erroneously conceptualized in such a way as to indicate parts rather than wholes. For example, in the health sciences, the term mind-body healing is frequently used. Many sciences are still rooted in the Cartesian mechanistic idea that all things are separate, distinct entities. In the idea of energy as a phenomenon, there are no mind-body, subject-object, local-nonlocal, human-environment dichotomies or any other type of dichotomy; *all* things, tangible, intangible, animate and inanimate, are complementary representations of *one* thing. Hence, wholeness is indicative of *one* thing, not many things (Todaro-Franceschi, 1997, in press)¹. Perhaps that is why many Rogerian's favor

Bohm's (1980) theory, although admittedly there are parts of it that are in conflict with Rogerian science. Bohm's ideas account for *the one* based on the theory that the universe is a hologram; all of *the one* is imbedded in every part of the whole.

All of the theories noted lend support to the idea of energy as a *phenomenon* that is constantly changing. As aspects of a whole, everything complements everything else. Nothing is divisible, and perhaps more importantly, nothing stands still (Todaro-Franceschi, in press)¹. It is because the whole is always changing, that outcomes are *ultimately* unpredictable. Again, this idea is congruent with Rogerian science. Because the whole, the *one*, is eternally changing, we come to the second tenet implicit in the idea of energy as a phenomenon: change is inherent.

Change: An Inherent Characteristic of the Phenomenon of Energy

Viewing energy as a phenomenon rather than as part of a causal process leads to the idea that change is an inherent characteristic of energy. Throughout human history, there has been an ongoing debate about the nature of change. Despite the apparent popularity of efficient causation throughout our history, some individuals still grappled with the idea that changes came about from within a thing (an actuality), rather than from outside. A notorious example is the debate between the Cartesians and Leibnizians. Leibniz (1714/1898) perceived that all things have an innate force (*vis viva*) to become what they do: outside forces could not effect change in the basic fundamental substances (monads).³ He asserted that this innate force was always conserved, contrary to Descartes (1644/1972), who argued that momentum or motion was always conserved. In each of these views lies an implicit expression of two conflicting paradigmatic views, mechanism and dynamism.

In a mechanistic universe where every-

thing is separate and distinct, change and motion come about by causes that lead to effects. But, if everything is a manifestation of *one* phenomenon, energy, then change emerges from the whole. Cause and effect is an illusion. Change arises from within, instead of from without. There are no external forces causing change, there is no transmission of energy from one thing to another; instead, *one* thing is dynamically transforming, changing unceasingly; one thing is always becoming. Change then, *is* an inherent characteristic of the phenomenon of energy (Todaro-Franceschi, 1997, in press)¹. The neutrino that disappears as one kind and reappears as another is an explicit example of inherent change. *All* nonlocal phenomena, for example, the splitting of photons in EPR experiments, psi, and instances of prayer healing, display inherent change. In other words, these para-phenomena⁴ cannot be explained by the classical notion of energy as part of a causal process, but they can be better understood from the viewpoint of energy as a phenomenon.

In Rogers' (1992) description, a field changes continuously and innovatively, that is, the pattern of energy changes constantly and creatively. The changing nature of everything is inherent and emerges from mutual human and environmental field process. There are no outside forces acting on us: all is integral. As the nature of human and environmental energy fields change, energy wave patterns manifest in unique human activity. So that the second tenet—change is an inherent characteristic of energy—is consistent with Rogerian science and more specifically, her principle of helicy.

The phenomenon, energy, is always inherently changing; it is continuously innovative and as such, is ultimately unpredictable (in any definitive sense). Yet, there *is* an element of predictability in the way certain things tend to become what they do, a predictability that in turn, lends itself to a

kind of directionality. Of course the notion of directionality is not congruent with Rogerian science. This leads to the third tenet implicit in the idea of energy as a phenomenon: change is purposive.

Change is Purposive

When Rogers (1992) changed from things being probabilistic to unpredictable, she left no room for any kind of teleology. Yet, in order for us to espouse the open-ended nature of human and environmental energy fields, and accordingly, mutual process, must we discount the purposiveness in human nature, or in any other kind of nature, for that matter? It is all essentially one, or as Rogers would say, integral. So that cause and effect *is* simply an illusion. But do openness and integrality deny purposiveness? It is affirmed here that they do not. Purpose does *not* imply cause and effect. It implies meaning and intention (Todaro-Franceschi, 1997, in press)¹.

Going back to the statement that there can never be two identical things because energy always is transforming, in reality many things are similar. Recalling Rogers' examples of fingerprints and voiceprints, we would do well to note that they are similar, everyone has them, and perhaps we should ask ourselves why this is so. Why is it that humans (and in fact many living things) share certain characteristics, such as eyes, hearts, and lungs? These characteristics are actualizations of potential. They are manifestations of energy, or as Rogers' would say, pattern. And, they all have a purpose. We didn't consciously will ourselves to have these characteristics. We didn't participate knowingly, at least I don't think we did, in their creation. But we have them nevertheless, and they certainly do act in a purposive manner.

Butcher (1997) noted that the idea of self-organization is incongruent with Rogerian science. He commented that "self-organization conveys a separateness," while "integrality describes a co-evolutionary process"

(p. 13). Yes, the term self-organization does convey separateness. Standing alone the word "self" implies *one* thing's essence or nature. Thus, if everything is energy and everything is continually, infinitely changing, and we have what we *do* have, then it would seem that self-organizing abilities must somehow be within the *phenomenon* of energy itself (Todaro-Franceschi, 1997, in press)¹. In other words, the *phenomenon of energy* is a self-organizing entity; the *one* is manifesting itself in a multiplicity of complementary ways. Accordingly, there is nothing *to separate*.

Self-organization is everywhere evident. Look at our eyes, hearts, lungs, even the way we learn and think. It is also very much apparent in our environment; trees, birds and bees; the entire earth, no, the entire universe, is a self-organizing entity. Even chaotic, nonlinear entities display self-organization; order can, and frequently does, arise from disorder (Jantsch, 1980; Lorenz, 1993; Prigogine & Stengers, 1984). The phenomenon—energy—the *one*, is organizing itself; *it* is actualizing potentials purposively.

The whole ontological notion of actualizing potentials (*dynamis*) to create change (*kinesis*) is essentially Aristotelian. Interesting and perhaps of significance to Rogerians is the term *dynamis*, which is translated as meaning the power, force or potential for creating change (Angeles, 1992). When used in Plato's (n.d) works, *dynamis* is often translated as power, while in Aristotle's (n.d./1984) works it is often translated as potentiality or the potential an actuality (*energeia*) has to change. So, according to Aristotle any actuality is directly related to its potential to do something.

Aristotle linked *dynamis* and *energeia* with the idea of change (*kinesis*) but more importantly, purposeful change. Often referred to as the final cause, or the "that for the sake of which," Aristotle held that all things have a natural tendency to become

what they usually do. In the case of human becoming, Aristotle (n.d./1984) also noted that we choose to actualize certain potentials while opting not to actualize others. Thus, final causes do not imply cause and effect. Aristotle's "that for the sake of which," is simply a means by which we can recognize the inherent purposiveness in things, for things only tend to become something, or do something, if there is a purpose.

The terminology used by Barrett (1989) to describe power as knowing participation in change is reminiscent of Aristotelian thinking. Recently, Barrett, Caroselli, Smith and Smith (1997) noted: "People actualize selected potentials and participate in creating their reality by being aware, making choices, feeling free to act on their intentions and orchestrating desired changes" (p. 32). Barrett (personal communication, August 16, 1997) clarifies this further:

In relation to power as knowing participation in change, actions of the human field are, to varying degrees, intentional rather than unintentional. Yet, outcomes of intentional actions cannot be predicted since the environmental field is also participating, knowingly, or unknowingly, in the emerging changes. This is why I would disagree with those who maintain that we create our reality (causality); rather, we *knowingly participate* in creating our reality (power).

Although we participate knowingly and intentionally in creating our reality, it needs to be noted that intentionality presupposes some inherent purpose. For, when one *intends* to do something, it is for some *reason*. Intentionality is not random, and therefore, human field motion cannot be random. This is congruent with the Aristotelian idea of final causes, which offers a reason why things actualize certain potentials rather than others to change or to become what they do. Aristotle's "that for

the sake of which," is only one of many ways a teleological explanation for existence is reflected in the literature related to the idea of energy as a phenomenon. Many individuals have held or currently hold the belief that this universe is not randomly becoming; it is becoming with obvious intention—purpose (See for example, Bergson, 1944; Bohm, 1980; Sheldrake, 1991; and Teilhard de Chardin, 1959).

Bohm's (1980) theory supports the idea of final causes; everything that is, was, or ever will be, arises from the implicate order. What we perceive as meaningful may manifest in the explicate order, but emerges from within the implicate order. Everything arises from *one* common ground. Sheldrake (1991) actually proposed that morphogenic fields *are* the final cause for the fully developed form of a living thing. He believes that these fields are organizing entities that provide the information needed to direct the organism toward its final form. In other words, "It has a kind of purposive quality" (p. 79). Both Bohm and Sheldrake also reflect the idea that change emerges from within rather than from without.

Rogers (1970) originally cited both Henri Bergson and Pierre Teilhard de Chardin, two philosophers who strongly propounded some kind of teleological explanation for existence. Bergson (1944) believed that there was an *e'lan vital* that propels things to actualize potentials; a driving force which moves things in a direction towards higher levels of complexity. Teilhard de Chardin (1959) also recognized a purposeful movement in all nature and came to the conclusion that, "*somehow or other*, there must be a single energy operating in the world" (p. 63). This single energy is what he deemed as the spiritual aspect between the within and without of things. More recently, Mitchell (1996) in his dyadic model, and Woodhouse (1996) in his energy monism, offered similar kinds of teleological explanations for existence; both posit that consciousness is a

fundamental aspect of the universe.

In their LIGHT model, Andersen and Smereck (1989) join Rogers' ideas of a universe wherein change is continuous, inevitable, and always novel, with Aristotle's idea of nature as "an inner principle of change" (p. 121). Andersen and Smereck are not the only Rogerian authors who have observed a seeming congruency between the ideas of Aristotle and Rogers. Sarter (1988a, 1989) had also noted a relation between Aristotle's and Rogers' views, going so far as to say: "Rogerian scholars may do well to consider the appropriateness of Aristotelian forms of causality for the science of unitary human beings" (1989, p. 77). It does appear that some kind of teleological explanation is warranted for the becoming of it all. Many human and environmental field changes do have some element of predictability; they do change in a purposive way.

The purposive, and on occasion, predictable nature of things is thought to be incompatible with the premise of acausality. Yet, it is apparent that we can sometimes predict human behaviors. For instance, it can be predicted that if a child has strep throat (streptococcus infection) the child will experience and complain of throat pain. When given tylenol, the child's pain will usually subside. It is probabilistic and in fact, often predictable, that when a patient is given a drug like procordia for hypertension, his/her blood pressure will decrease. Do these examples signify cause and effect? No. It is the communal process of various energy manifestations working in concert to actualize the potentials of "less throat pain" and "decreased blood pressure." Are these potential human actualizations probabilistic and hence, somewhat predictable? Yes. Does "less throat pain" and "decreased blood pressure" always occur after the administration of tylenol and procordia respectively? No.

The knowing participation that takes

place as energy transforms certainly does go on; if it didn't, none of us would have jobs. Through knowing participation potentials become actualized; we transform one thing into another thing. We do this in concert with all the other things around us, things that also are transforming and changing. It is because we can sometimes, not always, predict the possible transformations—changes, that we do nursing. So that although the integrality of the human and environmental energy fields posited by Rogers leaves no room for cause and effect relations, change *is* still purposeful and at times may even be predictable. We really do need to stop linking causality with teleology (Todaro-Franceschi, 1995).

But a question comes to mind concerning what to me exemplifies an obvious degree of *unknowing* participation in change. How is it that humans and other living things move or actualize in an apparently similar, and certainly beneficial, way? Do humans *knowingly* participate in all of the physiologic processes that go on from one minute to the next, day after day, year after year? It does appear that some aspects of human energy specifically act involuntarily and in a certain beneficial way. As many of us are fond of saying, "We cannot not participate." It seems that we can and do participate unknowingly at times—unaware that we are creating, by transforming, our reality. It is when awareness, or *power* as Barrett would say, comes into the picture, that we become *knowing* participants in the becoming of it all.

The idea of energy as a phenomenon has direct relevance to the way health and healing are viewed and can help us to better understand how certain alternative modalities work. Instead of positing that there is an energy exchange of some kind of subtle energy, *ch'i* or *prana*, where energy is lost or gained, we can say that the universe of energy is transforming in ways consistent with what we identify as health and healing.

For instance, in the mutual process of Therapeutic Touch, there is knowing participation in change. By being aware, making choices, and acting intentionally in mutual process, we are engaged in purposive energy transformation.

Yet, in many instances there appears to be unknowing participation in some kind of universal communal process. For example, in spontaneous healing, and especially miracle healing, where healing occurs without any intention on the part of anyone (or any known thing), again, purposeful energy transformation is occurring, but it doesn't seem to be through our awareness, choices, or intentional actions. Often, the actualizing of potential occurs naturally, without any intention on our part. We, for the most part, unknowingly participate in breathing; we do not *will* our hearts to beat, they just do.

Returning briefly to the notion of pattern, Johnson (1996) noted that a pattern indicates some kind of regularity, something "unlikely to have occurred by chance" (p. 323). And, if the patterns throughout the cosmos do not often occur by chance, then it does seem that they must be occurring on purpose, for some reason. Look at the pattern in a snowflake. We didn't knowingly participate in the formation of its pattern. We—humans—aren't creating, through knowing participation, *all* of the patterns around us; still, they are there.

The eternally changing nature and the apparent orderliness of the universe (human environmental energy) implies an inherent purposiveness. Perhaps then, in some way, *all* things are pandimensionally aware. The purposiveness in all Nature, and we are an inseparable part of Nature, seems to transcend *us* and hence, has led many individuals to the unequivocal conviction that *there must be a reason for it all* (Todaro-Franceschi, 1997, in press)¹.

So, Is the Idea of Energy as Phenomenon Congruent with Rogerian Science?

Rogers' view reflects the idea that en-

ergy is a phenomenon, not part of a causal process. In the idea of energy as a phenomenon there is no person-environment dichotomy or any other kind of dichotomy for that matter. All things, both animate and inanimate, are unique manifestations of the *one* phenomenon, energy. In this sense, all *is* essentially one. Since all is essentially one, we can do away with the entire notion of causality; it is an illusion. We have *one* thing manifesting itself in a multiplicity of ways, so that change is an inherent characteristic of the *phenomenon* itself. There are no outside forces acting on things to create change, rather change is emerging from the whole. There are *no* interactions, *no* energy transfer, losses, or gains. The whole is eternally transforming, changing, and manifesting itself in a multiplicity of ways.

Rogerian science offers a dynamic view of energy in which human and environmental energy fields are integral and infinite, forever, in mutual process, actualizing potentials. The word field is a unifying concept that reflects the inseparable nature of everything. Change emerges from human environmental process—the whole. Hence, the first two tenets implicit in the idea of energy as a phenomenon are congruent with Rogerian science.

Yet, I have noted that the consistent eternal changing of human and environmental energy exemplifies *purposeful* change. I referred to this changing nature of the cosmos as a communal process in an attempt to portray the idea of oneness. A communal process in which all things involved in this universal purposive eternal dance may not always be *knowingly* participating. For, when energy is viewed as the sole phenomenon that can account for everything in existence, it becomes increasingly difficult to say that the actualizing of potentials throughout our universe isn't purposive. The inherent, eternally changing, transforming nature of the *one* phenomenon, energy, is an activity that is definitely moving, or

becoming in a certain manner. As such, human environmental change is often, although not ultimately, predictable.

The culmination of the three tenets noted to be implicit in the idea of energy as a phenomenon has led to the conjecture that *there is a reason for it all*. For many noteworthy individuals, the idea that there is a reason for it all appears to be the only logical answer to the question of *why* it is all becoming so very purposively. As Johnson (1996) noted "it is hard not to believe that we are all participating in something universal, something holy...." (p. 328). It is held that the idea of energy as a phenomenon provides convincing evidence for something far greater and even more enigmatic than our small universe, a spiritual belief that goes beyond the realm of science into theology, and, as such, is better left alone for the time being. Rogerian colleagues are invited to reflect upon the implications of the enigma of energy so that we may engage in further dialogue.

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² Not to mislead the reader, it should be noted that none of the sources cited used the term *energy*. Aquinas, Descartes, and Newton all used the term *force* and developed the idea of efficient causes. Newton articulated *three laws of motion* which implied that one "force" acts on another to produce change, thereby further advancing the idea of efficient causation put forward by Cartesian mechanism.

³ The word *force* was used in lieu of the word *energy* for centuries.

⁴ The term para-phenomena is a catchall term coined by the author (See Todaro-Franceschi, in press) for things which cannot be explained nor understood by the idea of energy as part of a causal process; there is no evidence to suggest that some kind of energy transmission or exchange is occurring. All nonlocal phenomena fall into this category.

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BOOK REVIEW COLUMN

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FROM FLATLAND TO CYBERSPACE: REFLECTIONS ON ROGERIAN SCIENCE AND CONTEMPORARY MEDIA

A Review of Michio Kaku's *Hyperspace: A scientific odyssey through parallel universes, time warps, and the tenth dimension*

The exploration of the complexity of hyperspace requires logical and linguistic gymnastics. The language that explores such complexity is elusive for most people. Kaku (1994) has written an astonishingly clear account of the theory of hyperspace, which states that "dimensions exist beyond the commonly accepted four of space and time" (p. vi). Hyperspace theory is also referred to as Kaluza-Klein theory and supergravity. The most advanced formulation is called superstring theory, which according to Kaku, "predicts the precise number of dimensions: 10. The usual three dimensions of space (length, width, and breadth) and one of time are now extended by six more spatial dimensions" (p. vii). The formulation of the hyperspace theory, which has not been experimentally confirmed, has led to a flood of research reports exploring the theory. Kaku makes the point that the scientists are all talking and writing to each other, but very little has been disseminated to the public. The dearth of public information is regrettable in light of the very elegance and usefulness of the theory to unify all physical phenomena in a simple framework. A unifying theory, which would explain the universe, was the life-long effort of Einstein, unfulfilled at his death.

There are four major sections to Kaku's book. Part I recounts the history of hyper-

space theory with an emphasis on the theme that the laws of nature become simpler when expressed in higher dimensions. Kaku illustrates this principle with an example of the ancients and weather. Weather was a total mystery to the ancient Egyptians. With a two-dimensional worldview, an understanding of the seasons was impossible. Common sense notions of what the world is like are too limiting. But, when one can view the earth from a space ship, the tilted rotation around the sun makes sense of weather phenomena.

Part II explores the basic forces that hold the cosmos together--gravity, electromagnetism, and the strong and weak nuclear forces. While these forces appear to be very different from each other, given our present state of knowledge, Kaku discusses how a more encompassing, "theory of everything" can unify these forces in a cogent explanation of reality. Kaku states, "...hyperspace theory allows the possibility of explaining the four forces of nature as well as the seemingly random collection of subatomic particles in a truly elegant fashion. In the hyperspace theory, 'matter' can be also viewed as the vibrations that ripple through the fabric of space and time" (1994, p. x).

In Part III, Kaku, suggests that "tears" in space may open tunnels through space and time. Indeed, our universe may be only one of many universes or "megaverses" that may be accessible through such tunnels or "wormholes." In a colorful depiction of how such megaverses would relate to our universe, Kaku describes a vast collection of bubble universes suspended in air. Rogers (1988), in a personal communication, commented that space travel would be possible through "wormholes" which would allow for travel through vast distances. The prospect of space travel was especially compelling to Rogers, who envisioned humans living in space.

Part IV explores the usefulness of hyperspace theory for the inhabitants of our

planet. The understanding and harnessing of the forces of gravity, electromagnetism, and the nuclear forces have brought vast advances in the lives of humans. All technology today stems from the use of those basic forces. Advances in technology, unforeseeable with today's knowledge, may be the result of scientific inquiries into hyperspace. Rogers frequently expressed her optimism about the future that would come with increased knowledge about our universe.

The Rogerian postulate, pandimensionality, is closely aligned with the theory of hyperspace. It is likewise, a complex and elusive concept to explain and explore. Rogers defined and refined this concept of multiple dimensions over several years. Rogers (1992, p. 29) described a "nonlinear domain without spacial or temporal attributes." Butcher (1998, p. 51) wrote that pandimensionality suggests an "infinite domain that spans and is a union of all dimensions which characterizes the human and environmental field. Thus, all reality is postulated to be pandimensional."

Scholars who aspire to do research and base their practice on Rogerian theory would benefit from reading Kaku's book. The language of pandimensionality remains difficult to articulate, especially to others uninitiated in Rogers' theories. The cogent and clear explanations of Kaku in describing the laws of physics are very useful as background knowledge to understand and explain to others Rogers' concept of pandimensionality.

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FIELD PHENOMENA AND OUTCOMES RESEARCH ON THE BRINK OF A QUANTUM LEAP?

The purpose of the Controversies Column is to stimulate dialogue and debate among Rogerian scholars. Send us your thoughts, your comments, your responses to the issues addressed in the column or your ideas for those you would like to see addressed in future columns. Feel free to address the issues with enthusiasm and vigor, but do avoid attacks on persons. Help us keep the culture of enthusiastic, civilized debate among Rogerian scholars alive and growing.

Clinical Outcomes Research and the SUHB

There has been a long-standing discussion regarding the consistency of outcomes research with the principles of the SUHB (Cowling, 1986; Fawcett, 1996; Phillips, 1997; Smith & Reeder, 1998). Smith and Reeder (1998) provided an elegant description of the apparent conflict between outcomes research and the principles of the SUHB in the sixth issue of *Visions*. I will not attempt to duplicate the detailed and extensive discussions already in the literature. I will however, present a simplified, condensed statement of the issues as a base for the proposal which follows.

The Dilemma. From one perspective, the outcomes dilemma emerges from the tension between the science of nursing and the art of nursing. The principles of homeodynamics (resonancy, helicy and integrality) along with the manifestations of patterning constitute the substance of the science of nursing. Rogers' (1994) statement, "The purpose of nurses is to promote health and well-being for all persons wherever they are" (p. 258) describes the intent

which informs the art of nursing.

The science of nursing. The principle of integrality describes a "continuous *mutual* human field and environmental field process_" [emphases added] (Rogers, 1994, p. 262). Outcomes research seeks to identify the effects of the provider's "interventions" on the person who is the "recipient" of those interventions. "Outcomes" are based on the assumption that the actions of one person, the provider, affect the responses of another person, the client/patient. The idea of causality, the basis of outcomes research, is inconsistent with that of mutual process. One thing does not act upon another, separate thing. It follows that the idea of a planned intervention is contrary to that of mutual process.

The principle of helicy describes the "continuous *innovative, unpredictable* [emphasis added] increasing diversity of human and environmental field patterns" (Rogers, 1994, p. 262). Outcomes research seeks to identify the level of predictability of the outcomes of specific interventions. It logically follows that innovative patterns, the unique expressions of any human and environmental field process, are not predictable, nor can they be captured by standardized, quantitative measures (Cowling, 1997; Butcher, 1998).

The art of nursing. Rogers wrote (1994) "The art of nursing ...is the creative use of the science of nursing for human betterment" (p. 258). She also stated, "The purpose of nurses is to promote health and well-being" (p. 258).

Barrett (1990) stated, "health patterning enhances clients' capacity to transform themselves in creative and mutual process with their environments....The nurse uses substantive nursing knowledge to facilitate patterning the health of human kind" (p. 33). Pattern manifestation appraisal, deliberative mutual patterning and a variety of human field practice modalities are used in practice. For purposes of debate, one

might say that "the capacity to transform" oneself can be considered as an outcome of health patterning. Can we escape acknowledging and rejoicing in the manifestations of human betterment as increased health and well-being? Do we really want to do so? Certainly, practice from the perspective of the SUHB is different from practice according to more traditional world views. Nursing practice based on the SUHB does work from within an integral world view and the recognition of mutual process. But don't we really want to influence that process for the betterment of human health and well-being? Isn't "betterment" an outcome of that practice?

Rogerian researchers have developed quantitative instruments to measure specific pattern manifestations (Watson, Barrett, Hastings-Tolsma, & Gueldner, 1997). Others (Butcher, 1998; Cowling, 1990, 1997) have proposed qualitative methods to describe pattern manifestations. Fawcett (1996) raised the questions: "How can pattern manifestations, which are unpredictable, even be described?" and "Are questions of efficacy even relevant?" (p. 9). This writer asks, how can pattern manifestations be used as before-after measures of the efficacy of interventions from an acausal world view in which time is nonlinear? The human *experience* of these pattern manifestations *is* linear. Human betterment and the promotion of health and well-being imply some sort of influence as well as linear time. Our purpose as scientists and/or practitioners is the promotion of health and well-being. Don't we want to be able to document improvement in health and well-being? How can we resolve the dilemma of the apparent contradictions between the acausal, non-linear, unpredictable nature of reality as described by the principles of the SUHB and the intentions, consequent actions, and lived experiences of nurses and clients who observe small and large miracles emerge from the mutual process of their relationship?

The Resolution. Smith and Reeder (1998) were driven to resolve the apparent contradictions between the assumptions underlying outcomes research and the SUHB by the reality of the demand to engage in outcomes research in order to continue teaching Therapeutic Touch at the University of Colorado (p. 28). They proposed four ways to resolve the dilemma. These were by using: (a) Bohm's concepts of the implicate and explicate orders; (b) body-field relationships developed from a synthesis of field pattern profiles and physical measures; (c) complexity science in which "understanding is informed through multiple perspectives on the phenomenon that may manifest on the edge of conceptual or intellectual inconsistencies" (p. 36); and (d) metaphor to conceptualize the study variables rendering them recognizable as dynamically interrelated, manifestations of patterning. It is proposed that these represent both a means by which to resolve the dilemma and a springboard for a quantum leap in Rogerian studies of the human environmental field process. The discussion below will address only the first of these four proposals, that of Bohm's description of the implicate and explicate order.

Bohm (1983) described "a universe characterized by; unbroken wholeness, uncertainty, and paradox" (p. 35). He described the implicate and explicate orders, stating, "The implicate order...with its true nature of unbroken wholeness and patterns of energy [is] interconnected with all that is" and the explicate order, "ordinarily accessible to our senses,...[is] a reality with matter separate from energy" (p. 35). Bohm describes two orders, but one process in his statement that "this explicate order unfolds from the implicate in the dance of the holomovement" (p. 35). Varela, Thompson and Rosch (1995) would counter Bohm's description of "matter separate from energy" with their description of matter as simply energy at those frequencies directly

available to our senses (p.136). Smith and Reeder (1998) stated our senses do not consistently and fully apprehend and appreciate the patterning of this pandimensional whole. Instead our senses collapse waves creating an experience of separateness and physicality" (p. 35). Bohm's view is that of the universe as a single process, differing only in its manifestations, that is, in its presentation and accessibility to our senses.

The principles of homeodynamics can be considered as the laws describing activity at the level of the implicate order as it relates to persons and their environments. These principles describe a continuous mutual process (integrality), with continuously unfolding frequency wave patterns (resonancy), and an innovative, unpredictable increasing diversity of human and environmental field patterns (helicy) (Rogers, 1994, p. 262). Some manifestations of patterning (the experience of time, sleep-wake patterns, and pragmatic to visionary approaches to change) can be considered as manifestations of the human and environmental field process at the level of the explicate order. These manifestations provide "glimpses into the unitary reality" (Smith & Reeder, 1998, p. 35) as it is manifested in the process of each unique human and environmental field constellation.

Similarities between Bohm's implicate and explicate order and Rogers' SUHB have been discussed in Rogerian literature for some time (Malinski, 1986; Newman, 1997). Smith and Reeder (1998) have taken this discussion to a new level and new areas of application. They proposed a "synthesis of the dialectic" in which specific measures [of the explicate order] are seen as manifestations, "portholes for us to see and understand more about the [implicate] nature of this patterning called healing" (p. 35). The manifestations of patterning, be they described in quantitative or qualitative terms, can be seen as indirect indicators of the implicate order as it is uniquely expressed in

each person-environment process. "It is possible to conceive of separation, causality, linearity/locality and particularity as representative of the three dimensional world, the explicate order; while integrality, unpredictability and patterning are qualities of the pandimensional implicate order" (Smith & Reeder, 1998, p. 35). With this, the debate loses its power to command our attention. The issue has been resolved by Smith and Reeder's presentation. Do you, the reader, agree? Let us know whether or not you do.

The Quantum Leap

Smith and Reeder (1998) identified patterning as a quality of the pandimensional implicate order and stated a synthesis of the dialectic may lead us "to see and understand more about the nature of this patterning called healing" (p. 35). They stated that "those scientists engaged in the exploration of Rogers' SUHB are studying the nature of human environmental field patterning" (p. 34). The *process of patterning* itself as an area for study increases in relevance as the result of Smith and Reeder's discussion.

This writer asks, can patterning then be considered, not as a quality of the implicate order itself, but rather as an aspect of the process by which the implicate becomes explicate? "Manifestations of patterning emerge out of the human-environmental field mutual process" (Rogers, 1990, p. 9). In that case, is it not reasonable to consider three manifestations of patterning: (a) lesser diversity-greater diversity; (b) longer rhythms, shorter rhythms and seems continuous; and (c) slower motion, faster motion, and seems continuous as principles governing the *process* of patterning.

If one accepts the ideas that: (a) the principles of homeodynamics describe the processes of the implicate order; (b) the first three manifestations of field patterning [diversity, rhythms and motion] describe attributes of the processes by which the implicate becomes explicate; and (c) the last

three manifestations of field patterning [the experience of time, approaches to change, and sleep, wake and beyond waking] represent the explicate order, then new meanings of prior research, and new areas for future research emerge.

Summary, Conclusion, and a Call for Your Responses

Summary. The tension between the principles of Rogers SUHB (acausal, unpredictable and outside of linear time) and the purpose of the art of nursing (human betterment) has given rise to a long standing debate. When the University of Colorado demanded outcomes research for nursing to continue to teach therapeutic touch, Smith and Reeder (1998) were driven to resolve the debate in a manner which would allow for outcomes research. They proposed four ways to do this including the use of Bohm's ideas of the implicate and explicate order as aspects of the single process of the holomovement. Smith and Reeder's discussion would appear to resolve the apparent contradictions between the principles of the SUHB and the conduct of outcomes research.

Several further issues and areas for future research emerge from Smith and Reeder's discussion.

Conclusion. There is a resolution to the apparent contradiction between outcomes research and the SUHB. If, in addition, one considers: (1) the principles of homeodynamics (resonancy, helicity and integrality) as analogous to the implicate order; (2) three of the manifestations of field patterning (the experience of time, approaches to change, and sleep, wake and beyond waking) as analogous to the explicate order, and (3) the first three manifestations of field patterning (diversity, rhythms and motion) as analogous to the process by which the implicate order manifests as explicate order; then a new area for study emerges. That area is the *processes* by which the principles of the SUHB become manifested

in human field patterns.

A Call for Your Responses. Please write or e-mail your responses to the issue. It is controversy that keeps the SUHB alive and growing. Has the issue been resolved in a manner which allows for outcomes research? If yes, how so, and what do you see emerging from it? If no, why not? What other thoughts, comments, or areas for further exploration would you like to address regarding this or any other issues related to the SUHB?

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THE ARTISTRY OF ROGERIAN PRACTICE

Pretty isn't beautiful . . . Pretty is what changes. What the eye arranges is what is beautiful. . . . I'm changing. You're changing.

Stephen Sondheim

From the song "Beautiful" in the Musical Sunday in the Park with George

Rogers identified nursing as a "learned profession" and as a science and an art. Furthermore, Rogers (1988) specified the art in nursing as "the imaginative and creative use of knowledge" (p. 100) for the purpose of human service. While there has been much focus in the nursing literature on explicating "Rogerian *science*" there has been little exploration on the meaning of *art in nursing* within the perspective of Rogers' science.

While nursing has long been described as an art, only recently is there evidence of a "powerful move toward art in nursing" (Chinn, 1994, p. 20). Nightingale (1859) long ago wrote that "nursing is an art and if it is to be made an art, it requires as exclusive a devotion, as hard a preparation, as any painter's or sculptor's work." Isabel Stewart (1929) asserted that the

real essence of nursing, as any fine art, lies not in the mechanical details of execution, nor in the dexterity of the performer, but in the creative imagination, the sensitive spirit, and the intelligent understanding lying back of those techniques and skills (p.1).

In Carper's (1978) examination of nursing literature, she identified aesthetics as one of four fundamental and enduring patterns of knowing that nurses value in nursing practice. Peplau (1988, p. 9) also asserted that "nursing is an art form, not identical to but rather with elements in common with other art forms, such as the performing arts (dance and music) and the plastic or visual arts (painting and sculpture)."

Presently, the resurgence of art and nursing aesthetics is being powered by the larger post-modernist critique of science (Griffin, 1989), the shift from a mechanistic world toward an organismic worldview (Berman, 1981), the replacement of the Cartesian-Newtonian scientific paradigm by a holistic-ecological-spiritual paradigm (Capra, 1982; Woodhouse, 1996), and the emergence of the feminine voice of science (Shepherd, 1993). In nursing, identification of caring as the common *raison d'erte* of professional nursing education and practice (Benner & Wrubel, 1989; Boykin & Schoenhofer, 1993; Watson, 1985), descriptions of nursing as a human science (Parse, 1998), and the more recent call for values-based practice (Butcher, 1999; Cody, 1999) all contribute to increasing emphasis on the artistry in nurse sciencing. Chinn & Watson's (1994) *Art & Aesthetics in Nursing*, Chinn & Kramer's (1999) expansion of aesthetic knowing and inquiry in nursing, Johnson's (1994;1996) revealing examination of the art of nursing; and Donahue's (1996) beautiful portrayal of the history of nursing through works of art are just a few examples illustrating the re-emphasis of the art in nursing science.

Art may be viewed both as a process and product. As a process, art is the human effort of creating an aesthetic object or experience. A work of art is the product of an artist's endeavor. In nursing, aesthetics is a pattern of knowing related to the perception of deep meaning. The use of creative

resources that transform experience from the not yet into the possible may be expressed through works of art, criticism, and transformative "art-act" in nursing practice (Chinn & Kramer, 1999). In her examination of the art of nursing, Johnson (1994, p. 3) identified five "senses of nursing art" which have been revised here to be consistent with a perspective on Rogerian Art.

1. *grasping meaning* in patient encounters,
2. establishing a *meaningful connection* with the patient
3. *participating knowingly* in the client's change process,
4. *artfully engaging* in nursing activities,
5. using *Rogerian-ethics* in practice.

The art in Rogerian science is revealed in the process of unitary pattern-based practice. Unitary pattern-based nursing practice is the creative and imaginative process of using the knowledge in Rogerian Science for the purpose of facilitating the actualization of human potentials for human betterment and well-being. Each of Johnson's (1994) "senses of nursing art" will be examined below in relation to a model of unitary pattern-based practice.

Unitary Pattern-Based Practice Model

Barrett's (1998) Rogerian practice methodology for health patterning was the first practice model developed specific to Rogerian science and consisted of two phases: pattern manifestation appraisal and deliberative mutual patterning. Barrett (1998) recently updated the methodology by refining each of the phases, now more appropriately referred to as processes. Each of the processes was renamed for greater clarity and precision. *Pattern manifestation knowing* is the continuous process of apprehending the human and environmental field. Appraisal means to estimate an amount or to judge the value of something negating the egalitarian position of the nurse while knowing means to recognize the nature, achieve an under-

standing, become familiar or acquainted with something. *Voluntary mutual patterning* is the continuous process whereby the nurse assists clients to freely choose with awareness ways to participate in their well being (Barrett, 1998).

Cowling (1990) expanded Barrett's original practice methodology by proposing a template comprising eight guidelines for the development of Rogerian practice models consistent with the postulates and principles of Rogerian science. Cowling (1993, 1997) refined the template and proposed that "pattern appreciation" was a method for unitary knowing in both Rogerian nursing research and practice. Cowling preferred the term "appreciation" rather than "assessment" or "appraisal" because appraisal is associated with evaluation. Appreciation has broader meaning and includes "being fully aware or sensitive to or realizing; being thankful or grateful for; and enjoying or understanding critically or emotionally" (Cowling, 1997, p. 130). Pattern appreciation has potential for a deeper understanding. Pattern appreciation is approached with gratefulness, enjoyment, and understanding and reaches for the essence of pattern.

Butcher (in press) has proposed a model for Rogerian nursing practice synthesizing Cowling's and Barrett's practice methodologies. The synthesis of pattern manifestation knowing, pattern appreciation, and voluntary mutual patterning provides a more inclusive and comprehensive Rogerian practice model. The goal of the unitary pattern-based practice model is recognizing, understanding, and interpreting manifestations of patterning through *pattern manifestation knowing and appreciation*; and facilitating the client's ability to participate knowingly in change, harmonizing person/environment integrality, and promoting healing potentialities and well-being using noninvasive modalities through *voluntary mutual patterning*. A mutually constructed *unitary field pattern profile* is made during the pattern

manifestation knowing and appreciation process. Mid-range practice theories derived from Rogers' postulates and principles are used to guide the pattern manifestation knowing and appreciation and voluntary mutual patterning processes. In addition, Butcher's (1999) constellation of values intrinsic to the Science of Unitary Human Beings are integral to this unitary pattern-based practice model.

The Art in Pattern Manifestation Knowing and Appreciation

Pattern Manifestation Knowing and Appreciation is the process of identifying manifestations of patterning emerging from the human/environmental field mutual process and involves focusing on the client's experiences, perceptions, and expressions. Knowing refers to apprehending pattern manifestations while appreciating seeks for a perception of the full force of pattern while in a dialogue and/or in communion with the client (Barrett, 1998; Butcher, in press; Cowling, 1997). The art in pattern manifestation knowing and appreciation is the art of *grasping meaning*, creating a *meaningful connection*, and *participating knowingly* in the client's change process. *Grasping meaning* entails using sensitivity, active listening, conveying unconditional acceptance, while remaining fully open to the rhythm, movement, intensity, and configuration of pattern manifestations. Pattern manifestation knowing and appreciation is approached with an orientation toward gratefulness, enjoyment, and understanding. The nurse is also open to using multiple forms of knowing including pandimensional modes of awareness (intuition, meditative insights, tacit knowing) throughout the pattern manifestation knowing and appreciation process. Intuition and tacit knowing are artful ways to enable seeing the whole, revealing subtle patterns, and deepening understanding. All information about the client/environment/health situation is relevant. Interpreting pattern infor-

mation from a unitary perspective gives meaning to pattern manifestations and leads an understanding of the experiences, perceptions, and expressions. A unitary context refers to conceptualizing all information as energetic/dynamic manifestations of pattern emerging from a pandimensional human/environment mutual process. All information is interconnected, inseparable from environmental context, unfolds rhythmically and acausally, and reflects the whole. Data are not divided or understood by dividing information into physical, psychological, social, spiritual, or cultural categories. Rather, a focus on experiences, perceptions, and expressions is a synthesis more and different than the sum of parts.

Through integrality, nurse and client are always connected in mutual process. However, a *meaningful connection* with the client is facilitated by creating a rhythm and flow through the intentional expression of unconditional love, compassion, and empathy (Butcher, 1993). The integrality of the nurse and client is also enhanced by creating a sense of communion by intentionally focusing on and immersing in the rhythmical flow of expressions, perceptions, and experiences. Together, in mutual process, the nurse and client explore the meanings, images, symbols, metaphors, thoughts, insights, intuitions, memories, hopes, apprehensions, feelings, and dreams associated with the health situation.

The nurse's ability to *participate knowingly* in the client's change process is further enhanced by having a deep understanding and appreciation of the wholeness and essence of the client's human-environment experience. When the nurse has apprehended enough pattern information from the pattern manifestation knowing and appreciation process, a pattern profile may be constructed. Just as art expresses the essence of the human condition (Govignon, 1998), the pattern profile is an expression of the essence of the person-environment-

health situation. The nurse/artist weaves together the expressions, perceptions, and experiences in a way that tells the client's story. The pattern profile, like a work of art, reveals the hidden meaning embedded in the client's human-environmental mutual field process. Once the construction of the pattern profile is complete, the nurse shares the profile with the client. While the two processes of pattern manifestation knowing and appreciation and voluntary mutual patterning are continuous and not sequential, sharing the pattern profile with the client is a signal of the voluntary mutual patterning process.

The Art in Voluntary Mutual Patterning

Voluntary mutual patterning is a process of transforming human-environmental field patterning. Barrett (1998) explains that the term "voluntary" implies having freedom of choice, spontaneity, and willful intention of one's choices and actions. It is important that the nurse in a unitary pattern-based practice allow clients the freedom to choose their own health patterning strategies. The nurse is artful in not imposing his or her values on the situation and has no investment in changing the client in a particular way. Instead, the nurse encourages clients to make their own choices. Options are explored, and the nurse may explore potentialities or possibilities that may result from different choices. The nurse also provides information and knowledge so that clients can make informed decisions and participate knowingly in their own change process.

Sharing the pattern profile with the client enhances knowing participation in change. The pattern profile, like all art, is transformative (Govignon, 1998). Sharing the pattern profile with the client facilitates pattern recognition. An increased awareness and insight into one's own patterns provides insight which powers knowing participation in change and potentiates transformation of human-environmental field pat-

ternation. While sharing the pattern profile with the client, the nurse discusses options, mutually identifies goals, explores the meaning of the pattern profile, and plans voluntary mutual patterning strategies. Knowingly participating in the client's change process is guided by knowledge generated from the translation of postulates and principles in Rogerian science to practice situation. For example, mid-range practice theories derived from Rogers' postulates and principles such as the theory of power as knowing participation in change (Barrett, 1989); the theory of perceived dissonance (Bultemeier, 1997); the theory of kaleidoscoping in life's turbulence (Butcher, 1993); the theory of enfolding health-as-wholeness-harmony (Carboni, 1995), and the Personalized Nursing LIGHT practice model (Anderson & Smereck, 1989; Anderson & Smereck, 1994) all enhance the nurse's ability to participate knowingly in change.

There are a wide range of non-invasive human-environmental field patterning strategies with the potential to facilitate human betterment, well-being, and harmony. *Artfully performing* unitary patterning strategies is the heart of voluntary mutual patterning. Artfulness is compassionate skillfulness. Unitary patterning modalities are the creative and imaginative use of knowledge for the purpose of enhancing knowing participation in change, harmonizing person/environment integrality, and promoting healing potentialities and well-being. Artistry in Rogerian art emerges from the art/act of using non-invasive patterning modalities in unitary pattern-based practice. Beauty emanates from the nurse and client engaged in non-invasive transformative unitary mutual patterning modalities such as: Therapeutic Touch, massage, guided imagery, visualization, meditation, humor, affirmations, light, color, music, healing art images, art, aroma, selected literature designed to enhance well-being, poetry, movement, dance, exercise, dialogue, language, story-telling, and

journaling. Kaleidoscopic change and transformation is the Rogerian aesthetic emerging from voluntary mutual patterning. What is beautiful are the continuous changing patterns emerging from the nurse-client mutual process.

Lastly, the artistry in unitary pattern-based practice includes the nurse's ability to use *Rogerian-ethics* in practice. In an ethical analysis of Rogers' life and work, Butcher (1999) uncovered a constellation of values integral to Rogers' Science of Unitary Human Beings. Artful unitary pattern-based practice is inspired by Rogerian ideals including: reverence, human betterment, generosity, commitment, diversity, responsibility, compassion, wisdom, justice-creating, openness, courage, optimism, humor, unity, transformation, and celebration. The artistry in Rogerian science and art includes the translation of ethical ideals inherent in Rogerian science into action in each nursing practice situation.

Conclusion

The art of Rogerian science, like any fine art, transforms everything it touches (Govignon, 1998). Unitary pattern-based practice is an artistic endeavor and is the translation of Rogerian science into Rogerian art. All art is a special beauty (Govignon, 1998). Beauty emerges in the art of unitary pattern-based practice through the *grasping of meaning, making meaningful connections, participating knowingly, artfully engaging* in nursing activities, and mobilizing ideals of *Rogerian-ethics* in practice. However, illuminating the artistry in unitary pattern-based practice is only one means of revealing the art of Rogerian science. Future endeavors of revealing Rogerian aesthetics could include illuminating aesthetic images in Rogers' writings. In addition, explaining how art can be also a rich source for portraying Rogerian postulates and principles would further illustrate the inseparability of Rogerian art and science.

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FURTHER EXPLORATION OF THE PSYCHOMETRIC PROPERTIES OF THE PERSON-ENVIRONMENT PARTICIPATION SCALE: DIFFERENTIATING INSTRUMENT RELIABILITY AND CONSTRUCT STABILITY

Within Rogerian science, integral human and environmental fields are characterized by mutual process. Bohm (1980, p. 284) proposed the label participation to represent the processes of "partaking of" and "taking part in" the whole, as distinguished from "interaction between" separate systems. Participation has previously been defined within Rogerian science as the experience of expansiveness and ease of continuous human-environment mutual process (Leddy, 1995).

The Person-Environment Participation Scale (PEPS) was developed to measure the concept of participation (Leddy, 1995). The PEPS contains 15 bipolar pairs with seven numerical gradations in a semantic differential format. In previous psychometric testing of the PEPS (Leddy, 1995), Cronbach's alpha for internal consistency reliability ranged from .90 to .94. Initial construct and concurrent validity were established. The 2-6 week test-retest reliability for the instrument was $r = .74$ ($n = 122$), while stability of participation at six months was $r = .52$ ($n = 86$), and at one year was $r = .60$ ($n = 72$). But what, the investigator asked herself,

was the meaning of these results? Moderate correlations between test and retests could be the result of unreliable measurements of a stable construct, reliable measurements of an unstable construct, or unreliable measurements of an unstable construct (Knapp, Kimble, & Dunbar, 1998). The purpose of this paper is to differentiate the reliability of the PEPS from stability of the construct of participation.

Knapp and colleagues (1998) have suggested a procedure for distinguishing between the reliability of an instrument and the stability of a construct derived from Heise's (1969) technique. Based on path analysis, the technique requires four administrations of the same instrument to the same subjects. Data from the first three administrations are used to establish a matrix of zero-order correlations. Data from the fourth administration are used to test the assumptions of the technique (see Table 1). In studies designed to establish its psychometric properties, the PEPS was administered four times during one year with three overlapping samples. Data from 53 subjects who completed all four test administrations were analyzed for the present study (see Table 2).

Six bivariate correlations were obtained between PEPS administrations 1 and 2, 1 and 3, 1 and 4, 2 and 3, 2 and 4, and 3 and 4. The assumptions that the errors of measurement were independent of the true scores and the errors were independent of one another on the various occasions were supported, inasmuch as the product of r_{14} and r_{23} (.061) was in fact almost identical to the product of r_{13} and r_{24} (.057) (see Table 1, equations 1 and 2). Moreover, the reliability of the PEPS, determined by Table 1, equation 3, was very good ($r = .968$). Therefore, the PEPS was considered to be psychometrically sound for this sample.

Table 1.

CalculationsEquations to Test Assumptions

Equation 1: $r_{14} \times r_{23}$

Equation 2: $r_{13} \times r_{24}$

Equation to Determine Reliability

Equation 3: $r_{xx} = r_{12} \times r_{23} / r_{13}$

Equations to Test Stability

Equation 4: $s_{12} = r_{13} / r_{23}$

Equation 5: $s_{13} = r_{13}^2 / (r_{12} \times r_{23})$

Equation 6: $s_{23} = r_{13} / r_{12}$

Stability coefficients also were calculated. The stability between administrations 1 and 2 (Table 1, equation 4) was .698. The stability between administrations 2 and 3 (Table 1, equation 6) was .349. The stability between administrations 1 and 3 (Table 1, equation 5) was .246. These low stability coefficients supported the conceptualization of participation as a relatively fleeting and temporary construct, as would be expected given the continuously changing nature of mutual process.

Based on the instrument reliability reported here and the validity reported previously (Leddy, 1995) the PEPS can be recommended for use in clinical studies of field pattern relevant to health. More specifically, the PEPS permits measurement of the rhythmical waxing and waning of the ease and expansiveness of participation. At times, there may be the perception of more aspects of smooth and comfortable ("easy") partici-

Table 2.

Descriptive Characteristics of the Sample (N=53)

Age range (years)	21-99
Mean age (in years)	46
Females	73%
College education or higher	81%
Married	58%
Caucasian (%)	98%
Income > \$50,000	53%
Have at least one health problem/symptom	79%

pation, and at other times, the perception of more aspects of energetic and ability to influence change ("expansive") participation.

Phillips (personal communication, June 19, 1998) proposed a distinction between measurement of human-environmental field mutual process through participation, and measurement of pattern manifestations such as the perception of healthiness (Leddy, 1996) or power (Barrett, 1986). Accordingly, it is recommended that further research be directed toward study of the relationships between ease and expansiveness of participation and manifestations of field pattern. In addition, studies of the association of such non-invasive modalities as Therapeutic Touch, reiki, music, light, or aromatherapy with ease and expansiveness of participation are warranted. It is hoped that further studies will "contribute to unitary conceptual, theoretical, and empirical

understanding of manifestations of mutual process for the purpose of guiding nursing practice with clients" (Leddy, 1995, p. 30).

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