

Advancing Nursing Knowledge Through Complex Holism

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This article presents how nursing worldviews, relationship, and holism have evolved differently according to the predominant mode of perception used to create them. Intensive and extensive modes of perception are both primarily and fundamentally different; neither mode of perception can be subsumed by the other. Nurses are susceptible to limiting their perception by practicing simple holism. An evolution to complex holism in both intensive and extensive modes of perception is advocated for effective leadership in shaping the future of health care and nursing practice. **Key words:** *consciousness, cosmology, holographic theory, relationship, resonance, unitary practice, worldview*

IN addressing the future direction of nursing, Newman¹ calls for a move to a realm of nursing knowledge that includes and transcends all the realms that have gone before. Current worldviews of nursing have been organized in contemporary nursing literature as a chronological holarchy, with each more recent worldview including the knowledge of prior worldviews but adding a new perspective.^{1,2} Earlier worldviews are seen as special cases of later worldviews.² A holarchical conceptualization of nursing knowledge remains problematic for uniting practitioners in different worldviews because of the value connotations associated with developmental stages. I suggest that using a different philosophical approach toward nursing worldviews might be more effective. In this article, I propose that the current worldviews in nursing evolved from different modes of perception that are irreducible to each other and that practitioners using each mode of perception have been struggling to overcome simple holism to evolve to a complex holistic

viewpoint. Complex holism provides a more expansive view of wholeness in each mode of perception and is worth exploring as the next frontier of nursing knowledge development and as an effective means for nurses to embrace a more active leadership role in today's increasingly complex health care environment.

The term *complex holism* was created by Kelly³ to name the holism, described by French thinker Edgar Morin, that is capable of perceiving and valuing multiple wholes without reducing one whole to another. Morin^{4,5} critiques current views of holism as being partial, one-dimensional, and simplistic, because of the way the parts are reduced to the whole, or how one whole may be emphasized and valued more than other wholes. Kelly³ calls these reductionist forms of holism *simple holism*.

One's perception, or how one comes to know and interpret information, reveals and shapes one's personal worldview to a large extent. I will be using the extensive and intensive modes of perception described by Bortoft⁶ as an organizing framework to address how nursing worldviews, holism, and relationship evolved differently and irreducibly in each mode. Including relationship is important because holistic nursing practice is concerned with promoting healing, which has been defined as the emergence of right

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relationship.⁷ To illustrate how different modes of perception generate different knowledge, I will strive to present each mode of perception in its pure form. However, in lived experience, human beings are complex and use multiple ways of knowing and multiple modes of perception to create their personal worldview. I encourage the reader to consider how they use both modes of perception to inform their nursing practice.

THE EXTENSIVE MODE OF PERCEPTION

In the extensive mode of perception, one assumes the perspective of an onlooker and uses an analytic form of consciousness to process information.⁶ An analytic, external mode of perception constructs wholes from separate parts, finding a unity in multiplicity.⁶ Both the particularistic-deterministic and integrative-interactive worldviews of nursing⁸ arose predominantly from an extensive mode of perception.

Holism in the particularistic-deterministic nursing worldview

In a holistic extensive mode of perception, all parts and wholes have some form of boundary or delimitation that abstracts the part or whole from the rest of the environment.⁶ As one perceives wholes composed of parts, it is important to realize that not all of these parts are created equal. Some parts are merely descriptors of wholes, such as characteristics, fragments, properties, or aspects. Parts-as-descriptors do not possess their own unique interiority, nor do they exhibit relative autonomy. These are controlled externally. For example, the parts of a machine are assembled by an external force, and when a part breaks, it is either discarded or repaired by an external force. A mechanical part is not a whole because it lacks interior agency. Likewise, some parts of the human body such as natural hair color, result from the interaction of genetic code and environment. Hair color, a part-as-descriptor, has no internal self-agency or relative autonomy to change itself.

An extensive perceptive mode that constructs a whole from parts-as-descriptors yields a totality that is perceived to be an additive sum of parts⁹ most consistent with the particularistic-deterministic nursing worldview. In this nursing worldview, the researcher or practitioner strives to see phenomena in an objective manner and to isolate, control, manipulate, and predict the actions of the parts.⁸ In earlier nursing history, this view of the whole being an additive sum of parts was considered to be a legitimate form of holism,⁹ but now this view is no longer recognized as a legitimate form of holism by the American Holistic Nurses Association.

Holism in the interactive-integrative nursing worldview

Other parts are true wholes in their own right. Koestler¹⁰ first created the term *holon* to refer to a part that is both a whole and a part of a larger whole. These whole-parts, or holons, have an interior dimension of consciousness and an exterior dimension of form.¹¹ An interior dimension of consciousness enables a holon to exhibit relative autonomy in relationship to its environment and other holons.¹² For example, the cells of a body depend on the larger whole—the body—for their existence, but also have some interiority or relative autonomy in how they respond to any given situation.

The founder of holism, Smuts,¹² insisted that true wholes have an interior dimension and a wholeness that is more than the sum of parts. This definition of holism is consistent with the interactive-integrative worldview of nursing, in which the human being is viewed as “an integrated, organized entity not reducible to discreet parts.”^{13(p13)} In this nursing worldview, research is conducted from a social interactive perspective, accounting for subjectivity and multidimensionality of the person with some predictability.^{8,14} Despite the focus of research including some internal characteristics such as subjectivity, and the acceptance of qualitative methods of research as well as quantitative methods,^{8,14}

practitioners in this worldview continue to use a predominantly extensive mode of perception because of the way relationships in this worldview are perceived as interaction. The American Holistic Nurses Association acknowledges this view of holism as “identifying the interrelationships of the bio-psycho-social-spiritual dimensions of the person, recognizing that the whole is greater than the sum of its parts.”^{15(p1)}

Relationship in extensive perception

In an external perceptual focus, relationship occurs between holons as interaction. The relationship occurring in the “between” space can be sacred if the “I’s” perceive each other subjectively as a Thou, or the “between” space in a relationship can be dead space resulting from an objective “I-It” connection.¹⁶ If the I’s value the “space between” as a separate, but equally important force, the relationship becomes an important third entity with its own unique gifts and needs.¹⁷ Regardless of how the between space is conceived in an extensive mode of perception, Bortoft⁶ notes that this form of vision results in a conceptualization and portrayal of the world in which holons—separate foci—are foregrounded, with the relationship between them receding into the background. One can imagine an award ceremony where the individual(s) receiving the award become(s) the visible winner(s) on the stage, with the relationships responsible for the award winner’s success receding into the background. Even when an award winner tries to make these relationships visible to the audience by thanking others for making his or her success possible, this relational background for the most part remains invisible or less real to the onlooker audience. A holon in an extensively perceived world tries to overcome separation and create unity by establishing connective relationships.⁶ The world is perceived much like the strands of a spider’s web joining holons together or, to use a more contemporary metaphor, like the Internet joining many different computer operators together.

Individual holons have an influence in the world. From an extensive perception, once holons come into existence, they co-participate with each other and influence each other in a probabilistic causality.⁸ While holons are influenced by other holons (intrapersonally, interpersonally, and transpersonally) in their responses and actions, their responses and actions are never 100% predictable because of the holon’s self-agency and our inability to identify all the holons involved. We may be able to identify the most influential holons in a particular interaction and make some educated guesses about future events, but because our knowledge is partial, we always have an element of unpredictability.

In an extensively perceived world, human beings first organized holons into hierarchies and then into nested holarchies. Holons in each succeeding archical level are more complex and inclusive, possessing new knowledge and agency unknown to holons in preceding levels. This archical organizational framework inadvertently set the stage for simple holism in the extensive mode of perception because of the fascination with new potential that exists in larger or more inclusive wholes.

Simple holism in extensive perception

We grow up and continue to be steeped in hierarchal and holarchical structures. In a vertical representation, a holarchy is typically portrayed as a ladder with lower and higher levels. In a horizontal representation, a holarchy is typically portrayed as a nest of progressively larger concentric circles. In an extensive mode of perception, any chunk of localized spacetime has an “archy,” whether it is the physical body composed of atoms, molecules, cells, tissues, organs, systems; workplaces with sociological ranking of employees; or theistic religion with its value rankings concerning body, soul, spirit, earth, and heaven. Generally speaking, we respond to an innate desire to grow and develop, which is externally rewarded. “Up,

higher, forward, more advanced, or more inclusive” in any kind of developmental process is perceived to be more liberating, powerful, conscious, rewarding, and the solution or source for potential salvation for whatever problems we have. In this value system, the times we regress, descend, or retreat are tolerated only for a brief period of time in service to the ultimate goal of progression or advancement. Advancing is a pattern of thinking, being, and valuing that is internally self-perpetuating and self-accelerating, and while some pioneers may disagree, for the most part it is externally strongly reinforced and rewarded by society. In the *transcend and include* holarchical structure, greater emphasis is placed on transcendence—the source of the new potential—rather than inclusion, that which is perceived to be already known.

A unidirectional holarchical bias patterns holistic nursing every time the phrase *the whole transcends and includes the parts* is presented as truth without contextualization or qualification. Morin^{4,5} critiques this simple form of holism as being monofocal, partial, and reductionistic because of the way larger or more inclusive holons in the archy are valued more than their component holons.

Knowledge development in an extensive mode of perception occurs by creating a unity from multiplicity; the process involves overlooking the “different” aspects of the parts to focus on finding their unity or similarity.⁶ Typically, this occurs by “standing back” from the phenomenon to get an overview or by analyzing different holons to find common ingredients. A metaphor for this inquiry is a person who enters a bakery and observing the variety of breads and pastries displayed, tries to find the unifying ingredient between them, such as flour,^{18(p92)} or stands back to observe how all pastries are made through a similar baking process.

A reductionistic form of simple holism is practiced in an extensive perception when nurses confuse a common unity derived from a generalization of what is common in diverse parts to infer that the parts are one. Revisiting our bakery metaphor, it is important to

remember that even though bread products are created from flour and share a common ingredient, all breads are not wholly one or the same. They share a similarity in terms of all being made from flour, but that does not make them one. Likewise, when wholes are described from an extensive view as being fields that are pandimensional and coextensive with the universe, and thus nonseparate from each other,¹⁹ that does not mean they are one. Phillips first identified this mistake of confusing nonseparate with oneness, and provided a great illustration of complex holism from an extensive perception about how integral nature is not-separate and not-one^{20(p14)}:

Imagine one whole as a red overhead transparency with Field A printed on it. Imagine a different whole as a yellow transparency with Field B printed on it. Each of the two fields has its own unique pattern. Now overlay the red and the yellow transparencies simultaneously. A new pattern emerges. The uniqueness of the red Field A pattern is still present within the new pattern and the uniqueness of the yellow Field B pattern is still present. Both patterns/transparencies are together (not-separate) and integral with each other when seen as a whole, but the two transparencies are not one. [paraphrased].

In this example, Fields A and B are valued together without reducing them to each other, while a newly emerged pattern is simultaneously recognized. No one color pattern (field) is collapsed into the others or privileged more than the others.

Complex holism in extensive perception

In his analysis of the primary holisms in nursing, Kolcaba²¹ noted that the parts of wholes [holons] have properties their larger wholes lack. This observation appears to contradict the simple holistic viewpoint that larger wholes include and transcend *all* of their holons. Morin noticed that the whole is also less than the sum of parts because “some of the qualities or properties of parts are inhibited or suppressed altogether under the influence of the constraints resulting from the

organization of the whole.”^{4(p374)} He noticed sometimes parts [holons] are greater than the whole,⁴ citing Gunther’s²² and Spencer Brown’s²³ observation:

Progress does not necessarily consist in the construction of larger and larger wholes; on the contrary, it may lie in the freedom and independence of small components. The richness of the universe is not found in its dissipative totality, but in the small reflexive entities—the deviant and peripheral units—which have self-assembled within it.

Expanding extensive perception to complex holism requires that nurses be able to value multiple holons in their own right without reducing one holon to another. This is not to be confused as a regression to the particularistic-deterministic worldview in which wholes are reduced to their parts and studied as objects in an attempt to manipulate and control them and thus gain greater control over the whole. In a complex holistic interactive-integrative worldview, holons are perceived both objectively and subjectively with appreciative respect for their unique existence and lived experience.

This extensive shift in perception from simple to complex holism is illustrated in the following dialogue between 2 nurses²⁴:

Are you saying that smaller holons have a wholeness that is not experienced by the larger holon? That not all of the smaller holon is included in the larger holon?

Yes, and this ability to see the wholeness that is not completely transferable to other holons is called complex holism. Of course, all this was very abstract and theoretical until I gained a sincere appreciation for bacteria.

Bacteria! This sounds like it is going to be good. . .how do bacteria play into this?

I began to realize how much of my work time as a registered nurse is taken up by worrying about bacteria. Not only do I wash my hands every time I turn around so that I don’t spread infection from one patient to another, but I am constantly giving patients antibiotics to kill the little pests. Then there’s all the time we spend ordering cultures, looking up lab results, and consulting with pharmacy and the docs about whether or not we are using the cor-

rect drugs to combat the targeted bugs. And sometimes life gets really fun when we have patients that are allergic to certain antibiotics, or when patients have strains of antibiotic resistant bacteria, and we have to put them in isolation and wear all that protective, uncomfortable gear. And ironically, when I’m in patients’ rooms and their televisions are showing commercials, about half the time the commercial is about the latest antibacterial hand soap or some other antibacterial cleaning product, which may be contributing to increased bacterial resistance in the home. And then there’s the whole controversy about antibiotics in our food and water and, well, you get the picture—our culture has a fairly war-like attitude towards microorganisms.

So besides the power of bacteria and their rapid-fire ability to outsmart us, what else fascinates you about them?

“A new perspective on bacteria opened up to me in my cosmology class. I learned that bacteria can actually live forever if given the right environmental conditions for life because they have no genetic programming for aging or death. They just keep reproducing themselves. The bacteria that live in huge mats sealed up by slime in our deepest oceans win the longest life award, 1500 million years to be more or less exact.²⁵ But here is the punch-line of this delightful cosmic joke. . .I’m flipping through a magazine on my dinner break at work one evening, and can’t help but notice all the ads for anti-aging products. As a human being, I am host to 1000 trillion bacteria²⁶ and I am also composed of 50 trillion cells²⁷ that have themselves evolved from bacteria.²⁸ Our cells evolved from bacteria that gave up their capacity for eternal physical life by deciding to give up their individual membranes to share a common cellular membrane. Is it any wonder that human beings crave an eternal physical life? Up until now, I have always attributed the human being’s desire to live as long as possible to a fear of death, or to cultural values that prize youth over old-age, but now I wonder how much of this drive literally comes from my own bacteria. And the humor doesn’t stop there; look how we are revisiting asexual reproduction and stem cells to advance medical science. We have a lot of envy for those properties of our smaller holons that we human beings, as larger holons, have lost on our evolutionary journey.

OK, so how does this new insight change your nursing practice?

Well, it's got me thinking about how we can access our cellular wisdom. How can we collaborate more effectively with these tiny, powerful holons? Are there more productive ways to engage them in a healing process rather than being so quick to kill them, which in the long-run tends to create more problems? Are there ways to engage in a more supportive partnership with our cells?

In the earlier dialogue of the nurse exploring a complex holistic relationship between bacteria and herself, she uses an onlooker perspective or extensive mode of perception. She explores relationship with bacteria living on her as host, and within, remembering her cellular composition of mutated bacteria. She discovers a new appreciation for the holons (bacteria, cells, and human being) involved.

After attending a nursing conference on bio-psycho-social-spiritual patient care, Wright²⁹ cautioned nurses about "dumbing down" holism to a strictly human-oriented perspective that ignores deepening human connection with the universe. Ideally, as in the earlier dialogue, a complex holistic extensive mode of perception would reenchant human beings with the universe, including nonhuman life, and would awaken new possibilities for healing relationship with mutually beneficial outcomes for the holons involved. Swimme and Berry³⁰ suggest that our immediate goal in this era is not to simply diminish human devastation of our planet, but it is to alter the consciousness responsible for such devastation by moving into a new revelatory relationship with the universe, one in which interspecies [or interholonic] participation is valued.

THE INTENSIVE MODE OF PERCEPTION

In the intensive mode of perception, one uses a form of intuitive consciousness that imagines everything as one Self coming into being in multiple forms, creating a multiplicity-in-unity.⁶ Because everything is one giant whole flowing into many diverse forms, there is no separation between parts.⁶ Newman is remarkably consistent in convey-

ing the intensive mode of perception for nursing praxis, with the term *praxis* meaning theory-research-practice as a nonseparate whole. She has repeatedly stated that there are no boundaries or spaces between parts, which implies that there are no holons. She views existence as a giant hologram with one implicate order* unfolding into the explicate order or physical existence as we know it.^{2,31,32} The intensive mode of perception is an immanent one, wholeness is not something that we are trying to achieve. There is no transcendent whole "out there" to find because we are a direct, unique expression flowing forth from one huge immanent whole. From this perspective, we already are whole.^{2,31} In an intensive view of diversity, diversity appears as Self-difference or one whole unfolding.⁶ Consequently, it is more accurate to describe diverse forms as aspects of the whole.

Holism in the unitary-transformative worldview of nursing

The unitary-transformative nursing worldview⁸ emerged primarily from an intensive mode of perception. In this worldview of holistic nursing, the *person* is defined as a pattern manifestation of an irreducible whole, such that "it is impossible to think of persons having component parts (eg, biologic, psychologic, social, and spiritual components) and that any discussion of the 'part' is improper."^{33(p119)} The individual is a self-organized field, identified by pattern, in mutual rhythmical interchange with their environment.¹³ In this nursing worldview, health is a process of becoming and evolving, unable to be objectively assessed.³⁴ The American Holistic Nurses Association recognizes this worldview's definition of

*I will be using the terms *implicate order* as referred to by Newman, and *Self* as referred to by Bortoft interchangeably. *Self* capitalized indicates the one whole; *self* lower-cased indicates an aspect of the whole (eg, an individual).

holism as “understanding the individual as a unitary whole in mutual process with the environment.”^{15(p1)} In an intensive perception, “the whole is not made up of parts but is reflected in the parts.”^{2(p39)}

Relationship in intensive perception

Relationship, from an intensive viewpoint, is vastly different from how we typically conceive of relationship in the extensive view. In the extensive view of relationship, entities are abstracted from their context (environment) and interact with each other interdependently through external connections in the space between.⁶ The astute reader will notice that describing person and environment in mutual process with each other creates a duality, a switch to external perception that is not consistent with a purely intensive view. From an intensive mode of perception, it is more accurate to describe individual and environment as aspects of one whole coming into being in mutual resonance.

In intensive perception, there is no interaction, no space between, no boundaries, and no separateness. Ultimately it is all one whole, not multiple wholes. So one might ask, can relationship even exist from a purely intensive view? Bortoft⁶ suggests that relationship can be perceived, but from an intrinsic relatedness perspective. An intensive perceiver does not separate the focus of attention from its context or abstract it from its larger self/whole, but perceives the focus of attention *together* with its context. According to Bortoft,⁶ the intensive viewer directly sees (no logical or analytical thinking required) how things “come into being” together and *belong* together. No explanation is necessary, rather a direct understanding occurs. In a being-belonging-together perspective, interactive causality disappears. Relationship occurs as resonance, a being together, rather than as an interaction between separate entities. Newman explains how intellectualization interferes with resonance, stating “If we analyze or evaluate an experience before we have resonated with it, the field is broken—the resonance is damped.”^{2(p37)}

In our natural, everyday-lived experience, we see separate people and objects interacting with each other all the time. An extensive mode of perception feels so easy we do not even think about it and take it for granted. Shifting from an extensive to an intensive mode of perceiving relationship can be incredibly challenging as illustrated by my struggle²⁴:

“What would an intensive view of relationship look like?” I wondered. DeQuincy offered a provocative hint:

Contrary to what we’ve been trained to believe, relationship does not happen when two or more people come together. This is the “rugged individual” view of relationship. Typically, we believe that each individual is kind of like an “atom,” and when two atom-individuals bump into each other, they form a relationship. . . . Well, I’m proposing that that view of relationship is wrong and, in so doing, I’m turning the usual view of things on its head. I’m saying that relationship comes first, and then our individuality grows out of our relationships—not the other way around.^{35(p12)}

Relationship comes before individuality and differentiation? How can this be? As I reflected, I realized that before “I” was created, my parents obviously had a relationship that created me. But first all these holons (individuals) had to exist to relate and create me. My mind began spinning backwards through a long list of “Who begat Whoms” and I quickly realized that I would need to revisit the creation story of the universe to investigate the possibility that relationship is primary.

According to cosmological accounts, the universe began with a singularity, followed by a flaring forth of particles that immediately began annihilating each other.^{30,36} When only one billionth of the original matter in the universe remained, “instead of having its existence vanish with any interaction, a particle could persist and could even enter enduring relationships. A proton and neutron joined together.”^{30(p22)} So far particles are foaming into existence *before* relationship, and DeQuincey’s hypothesis is not holding up well.

But wait a minute. What are these particles? Protons and neutrons are not the smallest holons of matter, electrons and quarks are. In relativistic quantum field theory, from an extensive relational viewpoint, electrons and quarks are pointlike.³⁷ From a string theory, more intensive relational

viewpoint, these particles are tiny filaments of energy arising from the same source [an intensive multiplicity in unity], shaped like strings that can vibrate in different patterns.^{38,39}

Quarks have the strongest bonds we know of and so far our science has not been able to smash these bonds.⁴⁰ It is doubtful we will ever be able to smash these bonds if, as Corning states, "Quarks can't survive independently, but they can (with the help of gluons) survive in threesomes."^{36(p37)} The smallest "particles" of our material universe flash into existence as triune selves-in-relationship. So DeQuincy's assertion that relationship is primary is not entirely correct in my initial interpretation. *Neither the individual nor relationship is primary, they come into being together.* Ah hah! We don't have relationships, we *are* relationship!

From an intensive mode of perception, there is no greater whole "out there" to be found. One experiences the world as one Self constantly unfolding as Self-in-diversity, or as a multiplicity-in-unity, without a subsequent unification being necessary.⁶ Everything and every person is already a unique expression of THE whole and if we want greater understanding, the method is to access this whole by going within, through inner space. In a holographic universe, the whole is in every part-as-aspect, so one accesses the whole by going more deeply into the part.^{2,31} Newman describes how nurses can do this by sensing into their own pattern, being open to new IN-sight (emphasis added), and reflecting this insight back to the client,³¹ whom we should remember is not a separate self from us in an extensive view, but is a unique manifestation of Self-in-diversity as we are. Nurses can also help clients to go within for themselves by asking them what has most meaning for them,^{2,31} which effectively points clients "into" the whole, the Self, through the "part" that they identify as their self. They are using an internal relational route to explore the inner space of Self. Knowledge discovery in this intensive mode of perception is a process of bringing what already is into greater conscious awareness, or as Newman describes it—"by going further into the center of self and seeing the phenomenon anew."^{2(p39)}

One should note that it is extremely difficult to maintain a purely intensive mode of perception for long. Intensive seeing feels artificial because it requires an imaginal process capable of penetrating surface appearances of separation to step more directly into the whole. Our nature is such that we immediately associate difference with separateness. The instant we perceive difference, most of us flash into an interactive, extensive form of relationship. The unitary-transformative worldview of nursing as currently described in nursing literature is not a pure derivation of intensive perception. Most practitioners in the unitary-transformative worldview use a form of intensive perception as nursing praxis, that is, they sense into pattern and then struggle to translate it to the more common extensively perceived world. A shift to the extensive mode of perception occurs immediately with written or spoken communication, because the latter requires analytic consciousness to accomplish. We all slip into an extensive mode of perception when we construct semantic or artificial boundaries in an attempt to describe phenomena and we also slip into an extensive view of relationship when we describe co-participatory relationship as occurring "between" aspects of the whole.

Simple holism in intensive perception

In nursing literature, the implicate order (immanent whole) is cited as being primary or first, with the explicate order being derivative.^{2,31} The explicate order is constantly unfolding from the larger, timeless, spaceless implicate order into more limited spacetime existence, with the process being primarily driven by the implicate order as a Self unfolding. In a simple holistic intensive mode of perception, the "larger" whole of the implicate order is valued more as being the all-encompassing big WHOLE imbedded in us but of which we only have partial knowledge as explicate human beings. Consequently, explicate lived experience, being a special limited case of the implicate order, has the potential to be devalued or considered

subordinate to the implicate order. Several feminists have noted that a preoccupation with a limitless world—in our case the implicate order—can lead to undervaluation of lived experience.^{41,42}

Unfortunately, a simple holistic view led Smuts to reject the intensive perception of holism. In his understanding, if everything was created in one moment in time as the implicate order, including all energy that is no longer created or lost, only to explicate later over time, there is no possibility for creativity. The universe becomes a mere explication of predetermined reality. He viewed holism as a creative process that could only occur in the interaction of small centers of wholeness, not as one giant whole unfolding.¹² Consequently, Smuts rejected this metaphysical, intensive view of holism as being absolutist and deterministic.

In addition, the concept of a person being an aspect of a whole can be initially confusing if viewed from an extensive lens. From the intensive perceptual viewpoint, the term *aspect* is more accurate in conveying the meaning of a person being a nonseparate expression of the whole. However, in the more common extensive usage of the term, we do not think of aspects having relative autonomy or choice. Describing a person as an aspect could be confused with the particularistic-deterministic worldview's use of parts-as-descriptors.

Complex holism in intensive perception

A complex holistic viewpoint would not value the implicate order as being greater than the explicate order but would consider the possibility that the explicate order in its own right generates new wisdom that is valuable to the implicate order. Neither order by itself would contain all knowledge; both would resonate and coevolve together. Bohm, the founder of holographic theory, acknowledged this possibility. When asked about the relation between the implicate and explicate orders, he acknowledged that "One view would be to focus on the implicate order as the

primary reality. . . But another view might see the implicate order as functioning within the explicate."^{43(p451)} Later, Bohm said, "the dialectical principle of the wholeness of the whole and the parts must be complemented with the principle of the partiality of the parts and the whole. You may say the principle of wholeness is ultimately to be emphasized, but both sides must be kept in mind."^{43(p453)} These statements are congruent with complex holism.

IMPLICATIONS OF COMPLEX HOLISM FOR NURSING PRACTICE

Bortoft⁶ explains that each mode of perception is complete in itself, but neither one is comprehensive. As summarized in the Table, neither mode of perception includes, transcends, or can be reduced to the other. Technically, it is inaccurate to describe some nursing worldviews including previous nursing worldviews when different worldviews arise from different modes of perception and provide unique forms of knowledge. In today's increasingly complex health care environment, the nurse must develop and use both intensive and extensive modes of perception to provide competent, comprehensive nursing care.

In the extensive mode of perception, a shift to complex holism requires the nurse to value all holons with appreciation for their unique contributions. Nurses are uniquely positioned to be the leaders our future requires in several ways. First, their educational background encourages them to apply knowledge from a variety of disciplines; and secondly, nurses coordinate and converse with multiple specialties in daily practice on the patient's behalf. Nurses foreground relationship, use multiple ways of knowing, and frequently serve as interpreters to facilitate communication across cultures. Nurses are master generalists, well-prepared to adopt a stronger interdisciplinary leadership role.

A nurse practicing from a complex holistic extensive perception will not only be able

Table. Holism in Extensive and Intensive Modes of Perception

	Extensive Perception	Intensive Perception
Holism	World is perceived as a multiple wholes and parts in interaction with each other. Consistent with particularistic-deterministic and interactive-integrative nursing worldviews.	World is perceived as one whole, expressed through multiple aspects as Self-difference. Consistent with unitary-transformative nursing worldview.
Simple holism	Looks predominantly to larger wholes for new potential. Uses <i>transcend and include</i> dynamic to reduce smaller wholes to larger wholes; unique contribution of smaller wholes are subordinated to larger whole.	Looks predominantly to the implicate order (spaceless-timeless existence) for new insight. Explicate order (space-time existence) seen as derivative expression or display of the implicate order.
Complex holism	Values all wholes without reducing one whole to another.	Views implicate order and explicate order as coparticipatory orders coevolving together.

to provide individualized patient care by making the appropriate referrals and giving the appropriate medications to help a patient with asthma but also will be able to provide nursing care to the complex systems to which the patient belongs. With complex holistic thinking, the nurse will be able to see the connections between various fields and literally defragment knowledge. The nurse would not feel paralyzed or powerless by the larger system or holon to which he or she belongs, nor would the nurse defer accountability to larger systems to provide solutions. With a personal appreciation for how smaller holons have unique knowledge and experience to contribute, the complex holistic nurse could choose to contact legislators for improved air quality legislation, contribute on an interdisciplinary team to revise the hospital asthma treatment protocol, or network with asthma community or professional groups. In other words, instead of limiting one's professional practice to the presenting individual client as a coping mechanism to deal with increasing complexity and information overload, the complex holistic nurse would use an expanded scope of practice to have a

much more significant impact in addressing the complex health concerns of patients.

The intensive mode of perception is especially useful for providing cost-effective care. The beauty of using an intensive mode of perception in an increasingly complex world is how it provides a way to instantly identify the most salient concerns in patient care. One does not have to worry about gathering all the information in an additive or totalitarian approach before making a decision. In a holographic, intensive view, all information is encapsulated in every region of time-space simultaneously. Through being fully present in the moment, the nurse accesses inner space in trust that the most relevant next step will be revealed. IN-sight bypasses the slower processing mode of the analytical, logical brain, and has the potential to eliminate costly information-gathering tests or procedures that the patient may not need or value.

The intensive mode of perception is the next frontier of exploration in group settings of practice. We need to learn to function together in new ways from the old competitive, power struggles of the past. As Newman³¹

observed, it is when old ways and rules are not working anymore that a transformation of consciousness is most favored. To break the cycle of repackaging old patterns as something new, we need to tap into source through an intensive mode of perception. Only then will we discover our highest shared potential through using genuinely new In-sight to cocreate most effectively with what wants to emerge.

Regardless of what one calls inner space—the whole, the implicate order, source, or consciousness—engaging with this space is profoundly transformative. After years of conducting research in leadership, organizational behavior, and systems change, Massachusetts Institute of Technology professor Scharmer⁴⁴ observed that we know a lot about outcomes and processes but very little about the source or interior from which we operate. He calls this inattention to our source our blind spot and proposes that only by tuning into our source through presence—both individ-

ually and collectively—can we get in touch with our highest creative potential and work most effectively with the future that wants to emerge.

Human nature is such that when we face complex challenges, our default response is to use more of the mode of perception we know best. However, using only one mode of perception in a simplistic manner will be ineffective in an increasingly complex world. We need to develop what Bortoft⁶ calls 2-sightedness, the ability to use both extensive and intensive modes of perception. Using both modes of perception in a complex holistic manner will best heed the call of the Whole for health—however one defines the whole(s). Our environmental, economic, social, and personal health challenges today require a collective, collaborative response. It is time for nurses to heed our planetary call for healing by expanding their focus beyond nursing the individual-as-client to include nursing the Whole(s) to which they belong.

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