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Foreword

After reading this rich review of current environmental health nursing scholarship, one may ask, how can our profession advance this work? How can we support our scientists, deepen nurses’ knowledge about environmental health, advocate to reduce risk to health from environmentally mediated threats, and to reduce environmental harm generated from our own practice?

Opportunities to strengthen environmental health nursing research include creating and supporting environmentally focused special interest groups at our regional meetings, identifying and nurturing young or beginning scholars, and sharing findings through traditional routes such as conferences and publications, but also through content-specific opportunities such as webinars, professional organizations, and even social media. Education about environmental health nursing needs to be strengthened in our formal professional preparation programs. In addition, knowledge can be shared in less formal ways including webinars, conferences, podcasts, and working groups. Advocacy for environmental health is an ongoing need, and nurses are in excellent positions to speak with authority and evidence. Opportunities for nurses to speak out can be encouraged in undergraduate and graduate programs, through professional organizations, and through opportunities to learn and practice lobbying and other forms of advocacy. The majority of nurses in the United States practice in acute care, and acute care is polluting. Nurses have many opportunities to get involved with developing and utilizing environmentally safe and healthy practices. They can serve locally on green teams, do evidence-based projects or research studies, and take on quality improvement projects that enhance processes and often save money.

We hope that this edition of the Annual Review of Nursing Research will offer opportunities for education, and further, that it will spur ideas and solutions as nurses take seriously numerous environmental threats to human health.

Elizabeth C. Schenk, PhD, MHI, RN-BC, FAAN
Volume Editor
Preface

An awareness of the importance of environmental influences on health has been apparent in nursing since the days of Florence Nightingale. Her broad view brought into focus the importance of clean air, clean water, access to sunshine, and hygiene. Although these seem obvious now, they were often overlooked in her day.

Similarly, while it may seem obvious today that we are barraged with environmental challenges, it is not at the top of our priorities as a profession. Environmental issues impact health, including exposures to toxic chemicals, chronic exposures to air and water pollution, or the many health threats unleashed by climate change. From a planetary perspective, our health can be impacted by the disruption and imbalance of our homeostatic natural world. This may be felt locally during flooding, for instance, or in large complex systems such as climate stability.

Impacts of the environment on health, from local to global, are complex, multilayered, and difficult to predict and measure. However, we learn more each year about how human health is impacted. In 1995, nurse leaders wrote a report “Nursing, Health, and the Environment” from the Institute of Medicine (Mood, Snyder, & Pope, 1995). In this report, the authors set the scope of environmental health nursing to include Research, Education, Advocacy, and Practice. Since, it has been called the REAP Framework, and its relevance continues today.

Nurses are contributing to environmental health knowledge through research on many issues, including chemical exposures, air pollution, climate change, food security and sustainability, and many other topics. Nurse educators are bringing environmental health content into curricula more regularly, including well-established topics such as air, water, and chemical pollution, as well as more recent challenges including climate change, planetary health, and environmentally sustainable healthcare. Nurse advocates are speaking, writing, leading, and creating policy to improve health through awareness and care regarding environmental risks. Practicing nurses are applying principles to provide safe care by reducing the environmental harm that arises from practice, and to teach patients, families, and communities about reducing environmentally related health risks.

This volume of the Annual Review of Nursing Research focusing on environmental health is organized in the tradition of the REAP Framework. Seven research-based manuscripts are presented. Four of these focus on air pollution, from chronic exposures to fine diameter pollution, feasibility of widespread air
quality monitoring, asthma exacerbation related to neighborhood conditions, and a scoping review of nursing contributions to wildfire-based research findings. Heinsberg and Conley write about omics methodologies that nurses may apply to environmental health–based research. Winters and Kurtz compare asbestos-related health risks in two different parts of the American West. Lastly, a group of authors report the psychometric findings from the development of a new tool to measure nurses’ awareness and behaviors related to climate change and health.

Two education-focused papers are shared. Eide and Odom-Maryon describe findings of a survey of nursing educators regarding the inclusion of climate change and sustainability curricula. Nicholas et al. describe the development of a Nursing Center for Climate Change, Climate Justice, and Health.

Authors have contributed four papers focused on environmental health advocacy. Anderko and colleagues describe risks and recommendations for an emerging contaminant of concern, per- and polyfluoroalkyl substances (PFAS). Dodd-Butera and colleagues present a concept analysis on environmental health equity. Sattler provides a review of environmental risk to farmworkers. Wilson and Stanley discuss a reimagining of the Flint, Michigan water crisis, through a lens of environmental justice.

Lastly, wherever nurses are, they are practicing, through their professional commitments as applied to all aspects of nursing. Three papers are presented focused on practice. Jackman-Murphy describes confidence in environmental health among new-graduate nurses. Johnson and Schenk introduce a concept of Nurse-Sensitive Environmental Indicators. May and Noel share survey results of school nurses, assessing their knowledge and attitude applied to their practice of caring for school-aged children and families.

Nurses are continuing to influence research, education, advocacy, and practice, as powerful voices for health and justice. This year’s review, Nursing Perspectives on Environmental Health, serves as an introduction to and reminder of that voice.

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Elizabeth C. Schenk, PhD, MHI, RN-BC, FAAN

*Volume Editor*
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CHAPTER 13

The Crisis and the Shutoffs: Reimagining Water in Detroit and Flint, Michigan, Through an EcoJustice Analysis

Kristi Jo Wilson and Erin Stanley

ABSTRACT

This chapter outlines the guiding theoretical framework of EcoJustice Education (EJE), research questions, semistructured interviews with nursing scholars that begin to question the perceptions that lead us to the crisis and recommendations of how sustainability efforts can help to address the vital relationality of human beings to water. It highlights the profession of nursing education in order for nurses to understand their roles within the context of the crises. The EJE theoretical framework will help nurse educators reimagine a new understanding and a powerful discovery that includes the awareness of a broad set of historically constructed and politically motivated power knowledge relations in nursing. The chapter provides examples and discussions of four dominant discourses predominant within the Flint Water Crisis and Detroit Water Shutoffs: anthropocentrism, ethnocentrism, individualism, and mechanism. These discourses are related to nursing education to further explain how they are pervaded in nursing.

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INTRODUCTION
This chapter will outline the guiding theoretical framework of EcoJustice Education (EJE), research questions, semistructured interviews with nursing scholars who begin to question the perceptions that lead us to the crisis and recommendations of how sustainability efforts can help to address the vital relationality of human beings to water. The profession of nursing education will also be highlighted in order for nurses to understand their roles within the context of the crises.

Background and Context
The media applied the term Flint Water Crisis as they described lead and bacteria in the water and the delayed response from the government and its effect on Flint residents. As a cost-saving measure, the Emergency Management team that was appointed by the Governor to oversee the city’s increasing financial debt, decided to obtain their water supply from the Flint River. During this time, the city was waiting to officially join the Karegnondi Water Authority (KWA), whereas previously Flint was purchasing water from Detroit. This decision was made despite concerns from plant water authorities, about the lack of qualified staff to orchestrate the transition along with the quality of the Flint River water (Kennedy, 2016). The crisis came to the public’s attention in April 2014, when Flint residents started noticing a discoloration of their water along with a peculiar odor and taste. Residents also complained of integumentary disorders such as rashes and concerns about bacteria (Fonger, 2017). A local pediatrician noticed that blood lead levels doubled in children less than 5 years of age. When her concerns were reported to authorities, she was told her data was flawed (Kennedy, 2016). It was not until October 2015, after 18 months of numerous complaints by residents, that the city publicly acknowledged the necessity to switch back to Detroit water.

The city of Detroit experienced a similar crisis beginning in 2013 when the Detroit Water and Sewage Department (DWSD), under the oversight of the Emergency Management team appointed by the Governor, started a controversial campaign to shut off residential water services to people delinquent on their bills. Delinquency was qualified as more than 2 months overdue or if a resident owed more than $150 (Hackman, 2014). This shutoff decision came shortly after the city filed for bankruptcy. Statistics from 2013 note that 38% of the city’s residents lived below the poverty line at the time, and an estimated 40% of Detroiters were considered delinquent on their water bills and their monthly cost is more than double the national average (Bartkowiak, 2014). Less than a year into the campaign, 100,000 Detroiters suddenly were without running water in their homes. This year, 5,600 residents are at risk.
of shutoffs, which the city touts as a vast decrease from 17,000 the prior year (Grimmer, 2017).

Both cities have faced the act of privatization along with an exclusion to what many think is a basic human right—water. In Flint, this exclusion was observed in the lack of prioritization in assuring safe water along with a significant delay in taking action to protect the citizens of Flint. In Detroit, the United Nations entered their opinion about the privatization of water saying that it is a violation of the human right to water.

EJE THEORETICAL FRAMEWORK

Incidences such as these serve as a battleground for the intersection of social and ecological injustice and the fight for human rights. The crisis and shutoffs serve as prime examples of how the oppression of certain human groups is interconnected with the degradation of the more-than-human world (in this case, water). Safe and clean water access is dependent not only on political, health, and social interventions, but on the treatment of bodies of water as worthy of dignity, respect, and care.

The EJE framework reminds us that human beings cannot be separated from a larger entity, as we are fully dependent on a complex, interdependent system. Author Wendell Berry reminded us of this notion when writing about health as imbedded within a larger system: “To be healthy is literally to be whole; to heal is to make whole” (1995, p. 87). Unlike many approaches that combine social and environmental issues into separate and distinct spheres, this framework operates from the position that social problems and environmental degradation emerge from the same foundational causes and those causes are exposed through a cultural ecological analysis (CEA) that examines the intersection between social and ecological problems.

Strand I: A Cultural Ecological Analysis

A CEA serves as the first of three strands of the EJE framework and focuses on the discourses that are part of the language processes contributing to our identity and the identity of those we define as other (Martusewicz, Edmundson, & Lupinacci, 2015). A CEA also brings forth the ideas that function to organize our institutions, policies, relationships, and general assumptions about the world. Exposing underlying discourses, root metaphors, and hierarchized dualisms within our culture is the primary goal of this strand of an EcoJustice framework.

Discourses are “complex exchanges of meaning . . . and thus have a history” (Martusewicz et al., 2015, p. 73). Discourses are more than just written and verbal text. They include nonverbal exchanges, behaviors, social practices, and
expectations (Gee, 2011). They are a group of “ideas or meanings that are produced in textual or verbal communications” (Powers, 2001, p. 1), including “language, symbols, social practices, institutions and structures” (Martusewicz, 1992, p. 147). They also affect and are affected by larger structures and institutions (Martusewicz, 1992). For example, anything outside of human is viewed as inferior through the discourse of anthropocentrism that is predominant throughout Westernized cultures.

Discourses produce and reproduce hidden meanings and assumptions that shape the relationships in our lives and are thus systematic (although not linear) and powerful. They are powerful because they help to construct our reality, provide definition and expectation to professions and disciplines, define knowledge, and ultimately define what it means to be human (Jäger & Maier, 2009; Martusewicz et al., 2015). Modernist discourses have a Eurocentric history that includes “human-centered thinking” (Plumwood, 2002, p. 11) and a value system that we assume is natural, even though it is hierarchized (more discussion about this topic in the following).

The concept of water is also constructed within this complexity because water is seen as a nonentity in Western society or as something that exists to serve human being. In addition, the very concept of nurse and nursing is created within this complex and often contradictory discursive system. For example, nurses are expected to live in the “two worlds” (i.e., the world of love and the world of efficiency or mechanism) that nurse scholar Benny Goodman described as he discussed the ideas of Wendell Berry (Goodman, 2017). Discourses that shape our identities are more than just words; they create our perceptions, realities, and “regimes of truth” (Foucault, 1977, p. 30). For example, they define our behavior, our language, and what it means to be a nurse and nurse educator, as well as what it means to be human in relation to the rest of the living world. These expectations and assumptions become our truths or common sense, and they have power over us as they serve as a consistent reminder of the dominant beliefs in our culture. Foucault called this dynamic relationship the power/knowledge structure (1977) that is held within discourse.

Root Metaphors and Hierarchized Dualisms
C. A. Bowers (1997) drew from scholars such as Lakoff and Johnson (1980), as they wrote about language, thoughts, actions, and the metaphors that serve to highlight certain things while shadowing others (Bowers, 1997; Lakoff & Johnson, 1980; Martusewicz et al., 2015). Root metaphors operate within discourse to shape the way we see the world, including our beliefs and behaviors. Root metaphors help us to perceive and know, as they are ingrained in the structure of our conceptual system that reinforces certain discourses (Lakoff & Johnson, 1980). They are deeply hidden (like roots) but powerful, and they cause
us to take for granted that things are normal because they shadow or hide other concepts and ideas that we do not hold as truth (Martusewicz et al., 2015). Martusewicz et al. (2015) recognized root metaphors but went further to introduce the way they function within discourses, a more dynamic set of historical processes.

Dualisms are differences between two things that might be naturally occurring, but when they are placed in oppositional categories and hierarchized, our thoughts are structured so that we think it is natural and logical to hold one of the pair as superior and the other as inferior. When differences are seen in terms of lack when compared to the superior term, this perceived deficit becomes deeply ingrained and taken for granted so that it becomes invisible in our culture (Bowers, 1993; Martusewicz et al., 2015). For instance, in the dualism of man/woman, the concept of woman is compared to man as master, and her weaknesses are viewed in relation to her constructed identity as close to the natural world. Thus, woman is also inferior (Plumwood, 2002), and the perception becomes accepted, normal, and invisible in the culture.

When these dualisms are naturalized, they become the source of value-hierarchized thinking in what Warren (2000) described as a “logic of domination” (p. 24). A logic of domination helps us to “explain and justify domination-subordination relationships” (Warren, 2000, p. 48). Plumwood’s (1993, 2002) idea of centric thinking works with a logic of domination within a conceptual structure of “hegemonic centrism” (2002, p. 100), where the dominant are the center and involved in the acts of radical exclusion, homogenization or stereotyping, denial or backgrounding, incorporation, and instrumentalism (Plumwood, 2002) that serve to normalize hierarchized relationships of superiority and inferiority.

For instance, the modernist discourse of anthropocentrism creates the assumption that human beings are separate from and superior to anything that does not meet the definition of a human being. It is taken for granted that the wants and needs of humans come before anyone or anything else. Discourses like anthropocentrism help to create and reproduce a way of thinking or a “logic of domination” (Warren, 2000, p. 24) because they support and normalize acts of injustice, exploitation, and violence, such as racism, classism, and sexism, and the abuse of the natural world. These cultural problems rationalize ecological problems, and thus an ecological crisis is also a cultural one (Martusewicz et al., 2015).

Drawing on a range of feminist and postcolonial theorists, Australian philosopher Val Plumwood (1993, 2002) uses the term Other or Others (Plumwood, 2002, p. 4) to analyze how dominant modes of representation are used to define these groups as inferior. We can clearly identify these discourses through the lens of EcoJustice, because when something or someone is considered Other, it is
automatically classified as inferior, and what follows are acts of exploitation and marginalization. Radical exclusion supports the perception that the Other is separate from us, while acts of homogenization or stereotyping block the ability to see differences within the “Otherised” (Plumwood, 2002, p. 101) group. Denial and backgrounding serve as ways to block any acknowledgment of the needs of the Other, because the desires of the people at the center are priority, and human beings adopt a “human-centered view of humans and nature” (Plumwood, 2002, p. 26).

Therefore, the Other is expected to incorporate into and assimilate the discourses and behaviors of the dominant group, as they are perceived to lack their own agency and value because their differences are hierarchized and thus inferior, and this is the act of instrumentalism (Plumwood, 2002). Cumulatively, we can begin to see how discourses combined with root metaphors, dualism, a logic of domination (Warren, 2000), and the assumptions that are associated with them and expectations within combine and weave together to create a complicated and deep tapestry to form and inform our realities and practices as nurses, nurse educators, and citizens.

Discourses of Modernity
Modernity is a “way of knowing that is rooted in Enlightenment” (Allan, 1992, p. 4) when there was a movement for freedom and liberation from religious and monarchical oppression (Allan, 1992). During the modernist period, people began to challenge the belief that the church and authority figures (the King) held knowledge and truth, and they began to believe that individuals could gain knowledge from their own efforts. Progress was an important concept, and it was assumed that one could rely on his or her own diligence and intelligence, as humans (and not just royalty) had the ability to predict, control, and rationalize individual outcomes (Allan, 1992; Martusewicz et al., 2015).

The period of Western history called the Enlightenment could not have existed without the intellectual shift that led to an approach to knowledge based on these ideas of rationality, control, and predictability. The predecessor was the Scientific Revolution, which roughly spanned the work of Copernicus in the early 16th century and the work of Newton in the late 17th/early 18th centuries and was marked by new understandings in physics, astronomy, biology, chemistry, and mathematics. While it may be difficult to argue that these new understandings were inherently bad, in conjunction with social and cultural forces in operation at the same time, they led to a change in paradigm that continues to have negative impacts and effects to the present (Kuhn, 1962/1996).

Ecofeminist philosopher Carolyn Merchant (1980) studied the Scientific Revolution and the formation of mechanistic (the world works like a machine),
rationalistic/scientific (reason is the valid path to knowledge), anthropocentric (human beings are superior to everything else), and androcentric (man is superior to woman) root metaphors. These can be traced as fundamental modernist discourses (Martusewicz et al., 2015). The operation of these discourses shifted attitudes toward nature, and because of the assumptions operating within them, to women as well. Merchant (1980) noted,

Women and nature have an age-old association—an affiliation that has persisted throughout culture, language, and history. . . . Women are struggling to free themselves from cultural and economic constraints that have kept them subordinate to men in American society. . . . In investigating the roots of our current environmental dilemma and its connections to science, technology, and the economy, we must reexamine the formation of a world view and a science that, by re-conceptualizing reality as a machine rather than a living organism, sanctioned the domination of both nature and women. (p. xxi)

Applying elements of both Plumwood’s (2002) analysis of centric thinking and Warren’s (2000) logic of domination discussed previously to these concepts, the impacts become clear. Reason, which is the defining characteristic of human, is associated primarily with men and a narrow, individualized conception of mind, and is therefore superior to emotion and nature, associated with women (and “savages”). Through Merchant’s analysis of the history of the Scientific Revolution, the ways in which modernist discourses associated with power came to construct truth and nature (along with female) were to be controlled and manipulated to serve man (as in Merchant’s aforementioned example).

These new ways of perceiving created a different value and belief system, and novel meanings, definitions, and behavioral expectations began to form the idea of what it means to be a human being. Human beings prided themselves on their ability to be rational and thinking beings, separate from other life forms that were considered irrational, without the ability to feel or reason (and this represented anything associated with the natural world, including women, as Merchant described). Those that were considered inferior were meant for the taking because they were thought of as matter (Merchant, 1980). People looked at the world through a human-centered viewpoint (i.e., what serves the human being is what is important), and these discourses were nourished by our beliefs that anything that did not meet the definition of human being was made of matter and parts that could be easily reduced and dissected to understand their parts. This was the only way to knowledge and the truth (i.e., the discourses of mechanism and rationalism that will be explained later in this chapter).
Modernist discourses create dominant forms of knowledge in nursing education that are institutionalized (i.e., expectations and assumptions inherent within the collective institution either through formal means such as policies, standards, procedures, or informal means such as verbal or nonverbal communication) that help us to define the nurse and nurse educator. Modernist discourses use and reproduce as natural, centric thinking or value-hierarchized thinking. Because discourse has normalized certain meanings, we do not challenge them.

MODERNIST DISCOURSES THAT CONTRIBUTED TO THE CRISIS AND SHUTOFFS

Following are examples and discussions of four dominant discourses predominant within the Flint Water Crisis and Detroit Water Shutoffs: anthropocentrism, ethnocentrism, individualism, and mechanism. These discourses are related to nursing education to further explain how they are pervaded in nursing.

**Anthropocentrism**

The modernist discourse of anthropocentrism creates the assumption that human beings are separate from and superior to anything that does not meet the definition of a human being (Martusewicz et al., 2015; Plumwood, 2002). It is taken for granted that the wants and needs of humans come before anyone or anything else.

This discourse affects the way we do not allow for consideration of the environment when it comes to defining health in nursing education. For example, when nurse educators guide students in their learning about health they disregard the fact that we “sustain unequal power relations” (Fairclough, 2001, p. 64) as nondominant ideas are shadowed by common sense assumptions about health. Health is described as an absence of illness and the responsibility of the individual without any connection to what is considered outside of the human body because most of us believe that we are not connected to anything larger than human beings. Additionally, nursing students who advocate for an alternate conception of health, such as one that is systemic, holistic, and embedded within place, are often marginalized in their classroom and clinical educational settings. If students advocate for water as something that has rights and needs to be considered (like the Maori tribe of Whanganui, New Zealand, and how they advocated for the Whanganui River as described later in this chapter), these students lose power because they are socially constructed as subjects that lack knowledge and intelligence and they appear irrational given the definition of knowledge within the nursing education.
A review of the history of the crises in Flint and Detroit point to a disregard for water as an entity that deserves to be considered in interrelation with human beings. As far back as 1967, General Motors Corporation was dumping 10 million gallons of waste in the Flint River according to a Department of Interior report (Renwick, 2019). In Detroit, the government privatized water and supported the idea that water is a commodity that has to be purchased by those who can afford it. These actions all point toward the case that there was no consideration of water having rights. In contrast, the Maori tribe in New Zealand won their fight in providing the same legal rights to water as human beings. As one tribal member said, “Rather than us being masters of the natural world, we are part of it” (Roy, 2017, para. 12). In other words, the Maori tribe considers water as something to be honored and respected, and not something that is “mastered” or owned by human beings.

**Ethnocentrism (Racism)**

The modernist discourse of ethnocentrism involves perceiving specific cultures as superior and valued over others (Plumwood, 2002). The crises in Flint and Detroit revealed the discourse of ethnocentrism through the treatment of residents. In both Flint and Detroit, the majority of residents self-identify as Black or African American with low socioeconomic status (Grimmer, 2017). Both cities were in financial debt and required the appointment of an emergency management team (which in itself is an act of individualism as described further in this section). Delaying information to residents and denying rights to water due to socioeconomic status creates the identity of Other. As described earlier in this chapter, labeling (consciously or unconsciously) as Other creates an inferior classification and a logic of domination that normalizes acts of exploitation and marginalization.

In nursing education, acts of ethnocentrism are prevalent in what nurse scholar David Allen called a curriculum with “whiteness as centre” (2006, p. 66) and explained that the process of “interpretation always incorporates the perspective of the interpreter” (2006, p. 68). In nursing education, the interpreter (i.e., nurse educator) is predominantly White, as 80%–83% of nurses in the United States are White (American Association of Colleges of Nursing [AACN], 2015; McMenamin, 2015). Therefore, meaning (and what is considered priority as far as nursing knowledge) is perceived through eyes of dominance and a dominant perspective.

Another example of ethnocentrism in nursing education is the lack of interest in notions of health in cultures that do not ascribe to normalized ways of thinking. Although groups such as the Alliance of Nurses for Health Environments (ANHE) have made substantial progress in changing perception of nursing
values about health that includes strong consideration of the environment, the idea of health as the absence of illness remains dominant in Westernized cultures. In addition, the call for the “promotion of health and the prevention of illness” (American Nurses Association, 2017, p. 1; International Council of Nurses [ICN], 2017, p. 1) does not describe any connection outside that which is considered human.

Not all cultures ascribe to this definition. In many branches of Eastern medicine, for example, health is considered through an analysis of energy flows and “feeling states” that are difficult to quantify in the manner so important in Western medicine (Yang, 2004). For example, while spending time with Anishinaabe healers Mark and Wendy Phillips, I learned that their beliefs about illness were vastly different from the dominant ideas in nursing education (Wilson, 2017). Mark shared that people who are ill are unbalanced due to the lack of connection or wholeness with nature. These ideas were never introduced to me in my nurse’s training, and I realized that there is an evident intersection between racism and anthropocentrism in the Western medical fields eschewing of indigenous perspectives on health as holistic.

**Individualism**

The notion of individualism is “the idea that we are all autonomous individuals and the concomitant separation of people from community” (Martusewicz et al., 2015, p. 74). The common contemporary framing of many issues as matters of personal choice, individual freedom or liberty, and even human rights are examples of this discourse in action.

Earlier in this chapter, readers became aware that General Motors was dumping 10 million gallons of waste into the Flint River as early as 1967 (and perhaps earlier). This disregard of connection of human being to environment plays itself out in the discourse of individualism. A lack of responsibility to the water and the people of Flint was further embedded when General Motors switched back to Detroit water in 2014 when they noted corrosion in their machinery. Neither the concern nor the changeover to Detroit water were publicized to the community. Instead, the corporation assumed rights as the most important member of the community, a community that did not include the Flint residents nor the wildlife who rely on the Flint River. Further, the right to determine how the water should be accessed or what should happen once the problems were discovered was undermined by the Flint emergency manager. In a democratic society, the voices that need to be heard are the voices of all the people (Fasenfast, 2019). But we cannot stop here if we desire sustainability; residents need to practice what Shiva (2010) describes as “earth democracy” or a constant reminder that we are citizens of this Earth and have responsibility to all of its inhabitants, and this includes
responsibility for the commons or community that includes more-than-human being (the second thread of an EJE analysis which will be explained later in this chapter).

In nursing education, individualism is noted within review of the 20th-century nursing theorists who focused on the human being as separate from the environment, and what attention they did give to the natural world was that of dominance and manipulation. This separation played out in the publications of many nursing theorists as they focused upon the individual human (i.e., patient or client) and did not address the “broader, social, cultural environmental, economic and political aspects of environment” (Kleffel, 1994, p. 40). Further, as nursing schools integrated the models and theories for nursing into the curricula, they also placed priority upon the individual, and there was no consideration of environment (Schultz, 1999; Young & Paterson, 2007). This individualist approach created whole curricula that is centered around the singular person, such as ethical dilemmas of the individual, nursing interventions for the individual patient, individual patient problems, and individualized and unique patient care (Schultz, 1999). Autonomy of the patient became a priority, and the discourse of individualism became ingrained in the curricula, syllabi, and pedagogical practices of nursing faculty.

**Mechanism**

Martusewicz et al. describe mechanism as “The idea that the living world works like a machine” (2015, p. 74). The idea that the Flint Water Crisis is exclusively due to corroded pipes or the idea that the Detroit Water Shutoffs is due to the inability to pay for water bills is a mechanistic way of understanding the crises in Flint and Detroit. An EcoJustice analysis can help us see that the history of our problem with water stems from a consistent disregard for the environment and the lack of connection of environmental to cultural problems. We see this in the way local automakers have dumped waste in the water or the idea of health as disconnected from the Other. It is also seen in the way the two cities put financial concerns above the community (which includes the water).

The discourse of mechanism can be found throughout nursing education, starting with many simplistic interpretations of the nursing process, nursing diagnoses, and even some components of critical thinking and clinical reasoning. For example, a novice’s approach to the aforementioned problem-solving strategies encourages the beginning nurse to be organized and efficient. These terms (organized and efficient) cover a broad spectrum of nursing care interventions including decreased waste and increased production, much like clockwork or a machine-like mode.

In addition, the idea of health in many nursing education curricula is reduced mechanistically to that of nothing more than the absence of disease. Adherence
to this definition implies that the goal of health can be achieved in an organized and efficient manner with health being a measurable entity in which nurses and nurse educators can establish and quantify positive outcomes (i.e., outcomes free of disease or illness). It is easy to see why the ideas of efficiency and measurable outcomes surrounding the definition of health are valued as positive outcomes, as they bring much status and profit to an outcomes-based reimbursement healthcare system. This lack of measurability is one reason it is obvious to see why health is not applied to a larger entity within the pedagogical practices of nursing education, at least at the baccalaureate entry level. Although some nursing graduate programs and nurse educators/scholars embrace the bigger picture, they are few and far between.

The Role of Schools and Universities

Schools and universities serve as platforms for both undergraduate and graduate nursing education as they articulate social forces that produce knowledge and play a key role in helping to create and reinforce modernist discourses. Bowers (1997) wrote about the power of schools and universities in forming the opinions and beliefs of students,

... the connections (well understood among many environmental groups) between the modern technologically oriented consumer lifestyle, the destabilization of viable communities, and the degradation of ecosystems, have not led to a critical consideration of how the high-status forms of knowledge promoted through public schools and universities are exacerbating the many crises we now face. (p. 37)

The crises we face are a result of creating “new economic and technological expressions of modernity” (Bowers, 1997, p. 38), and education contributes to these expressions. As nurse scholar David Allen noted during our interview, “We (in nursing education) are beholden to the external economic forces as opposed to the citizenry,” and this linear way of thinking further separates nurse educators and nurses from the idea of connection to nature. Bowers (1997) added, “... a reductionist way of thinking results in both marginalizing and delegitimizing cultural ways of understanding human/nature relationships as moral, even spiritual in nature” (p. 45).

If education is thought to be a platform to challenge those normalized ways of thinking and being, then nurse educators would act differently in the classroom and work from curricula that reflect what needs to be conserved and what needs to be transformed. Martusewicz et al. (2015) described pedagogical practices that focus on the language we use and differing perceptions within Western culture based on words such as stream and drain. She noted,
all I had done to begin this passage was to ask them to think about two words and pose questions that led them to consider the political and ethical implications of language, and then to link this discussion to some actual events in their own community. (Martusewicz et al., 2015, p. 57)

If nurse educators recognize that their responsibility includes exposing the roots of damaging ways of thinking and being (i.e., a CEA), students would begin to consider what thoughts they hold on to without challenge and which ideas would help to support new ways of thinking about nursing. In the case of the crisis and the shutoffs, nurses would understand their role as “earth citizens” (Shiva, 2010) in interrelation with the environment that includes water.

STRAND II: REVITALIZING THE COMMONS

In Strand I, we explained the elements of a CEA that focused on a critique of the dominant discourses that are ingrained in our culture and support belief systems, languages, and behaviors and practices (i.e., discursive practices). The second strand, revitalizing the commons, helps us to identify the practices, relationships, and traditions that are about sustaining life within the human community as well as the larger living world. Revitalizing the commons includes an awareness as well as a call to action to conserve the things that need to be saved and to advocate for the areas within the culture that require transformation.

A commons is not owned; rather, it is constituted by relationships of shared practices that belong to everyone. These practices and traditions are accessible without money required for access (Bowers, 2006; Martusewicz et al., 2015). The commons-based practices based on mutual aid are important because they can resist the discourses, root metaphors, and hierarchized dualisms that weave together to perpetuate and support a system based on capitalism, industrialism, and consumerism (Bowers, 2006; Martusewicz et al., 2015).

According to C.A. Bowers (2006), there are two types of commons: cultural and environmental. A cultural commons is not a place but rather consists of day-to-day practices, traditions, and relationships that are handed down from generation to generation over hundreds, even thousands of years. We may not recognize a cultural commons because the practices that help to define it are often devalued and seen as feminine or women’s work (Martusewicz, 2013b). Martusewicz (2013b) described the cultural commons as including

. . . non-money-based economic and social exchanges including: work–for–work; strong communitarian beliefs, practices, and relationships;
alternative forms and spaces of education; democratic decision-making; and efforts to create more sustainable, ecologically-sound relationships with natural systems. (p. 257)

Worldwide, the cultural commons are diverse and contextual; they vary depending on location and expectation in that particular culture. For example, when the author (Wilson, 2017) attended the Elders and Traditional Peoples Gathering at Trent University in Peterboro, Ontario, the Anishinaabe tribal elders talked about their relationship with the land. The author recalls how Mark Phillips, a member of the community who modulates healing, described his vast knowledge of the herbs in his backyard and their medicinal properties. Mark did not have formal schooling beyond high school, nor was he required to pay to obtain this knowledge as the tribal elders taught him as part of the expectations within the commons. His relationship with the land is vastly different from the relationship that most of us hold with the land and herbs that hold medicinal qualities, especially within the profession of nursing education. For example, the role of herbal medicinal interventions may be only minimally addressed in the most current nursing pharmaceutical textbooks if mentioned at all.

An environmental commons includes the relationships that we engage with in the natural world, including water, air, soil, rocks, plants, and animals. For example, while growing up in Grand Blanc, Michigan, the author along with her friend Katie traveled frequently to a local pond where we explored and developed a strong relationship with the sounds of the area, the trees, the animals, and water. It was a place of peace and adventure, and it was an environmental commons. I treasured that space, and even though I was a young child, if anything happened to that pond I would have been devastated; if I had been able, I would have tried to protect it. I am describing the intersection between the cultural and environmental commons forming a special relationship with the pond and its surroundings because the cultural commons helps us to delineate our relationships, including the practices and behaviors that are exhibited toward the natural world.

An important caveat: not everything within the commons is perfect. As Bowers (2006) noted, “A commons is not a panacea. . . . Individualism, anthropocentrism, androcentrism, and eurocentrism are all internalized, ideological aspects of our non-monetized day-to-day relationships and as such saturate our cultural commons” (p. 13). For instance, the commons-based practice (Martusewicz, 2009) of caring in nursing education is viewed as less important than the ability to read an EKG strip or apply a standardized protocol because reason or rationality are superior to caring. The definition of health in nursing education also exposes value hierarchies that can be existent within a commons. While Berry (1977)
supported a definition that stresses how our well-being is inextricably reliant upon a large and interdependent system (i.e., the natural world), the definition of health in most nursing education curricula remains focused on the absence of disease. One reason this mind-set came about is that nursing struggled to defend itself as a profession that was scientific, rational, and quantifiable (Powers, 2001; Rawnsley, 1996) and that does not include ways of knowing often associated with women, femininity, caretaking, and nurturing. This is the same process that devalues alternate forms of knowledge in the commons such as viewing a local pond as a member of the community.

Enclosure is another problem related to the commons. Recall that one of the key considerations in defining a commons is that money is not required for access. Enclosure privatizes and thus limits access to what was once shared. When enclosed, our relationship with the natural world becomes commodified and monetized. Thus, access becomes restricted to those who can afford that access. Acts of protection and advocacy are limited to the people who own the rights to the natural world, and the people who do not hold ownership cannot fully protect what is now considered a limited resource (Martusewicz et al., 2015).

In spite of the tenuousness of the commons, an EJE theoretical framework works with teachers and students to identify those behaviors that support flourishing and well-being for all members, including human beings who are nurse educators. It is the responsibility of nurse educators to increase the awareness of relationships that we need to hold dear within the environment, such as our relationship to the water, soil, trees, and air (i.e., an environmental commons).

Nurse educators need to also point out behaviors to their students, behaviors that demonstrate a cultural commons that supports well-being and health (as described by Berry, 1977). Nurse scholar Benny Goodman described such a practice in his interview:

One of the most powerful things I ever saw was a nurse in the intensive care unit (ICU). We were nursing... (a person) involved in a road accident. Had a serious head injury. Wasn’t sedated and was coming off the ventilator, but had a lot of brain damage. And, as a result, was disinhibited in his behavior and really difficult sometimes to calm down. He’d become agitated and thrash around in the bed. So what she did was say, “Hey, what we need to do here is get rid of the bed. Let’s put...” (infection control would throw a flip at this), but she said, “Let’s get a couple of mattresses and put them on the floor, get rid of the bed and put a couple of mattresses on the floor and put cushions and a big blanket down.” And so, he had double the space around him that he would do in an ICU bed. And she cleared the space and then when he got agitated, what she did, she would hold him like a mother...
would hold a child, cradle him in her arms and just gently rock. And he would calm down. The world of love meets the world of efficiency. Right there. Now that’s making a difference. But it won’t necessarily be seen in any hospital metric that’s measured in terms of quality care. But that’s the sort of difference that a nurse can make. That’s where their power lies—real power.

Goodman was talking of knowledges that are not purchased or available only to someone with college or university training. He was elucidating the ways of caring that we share that are not bought: those beliefs, practices, rituals, traditions, and other things in our lives that get passed down (e.g., “she would hold him like a mother would hold a child . . .”).

The nurse that Goodman was describing was expert in her knowledge of caring, part of what we should identify as the nursing commons. This knowledge, however, is devalued in the healthcare delivery world of capitalism and modernist ways of thinking where rationalism has become naturalized as the important. An EJE theoretical framework helps to identify these types of caring practices that need to be conserved in a nursing commons (i.e., what Goodman, drawing on Wendell Berry, referred to as “the world of love”).

Revitalizing the commons within the EJE framework reminds us that the ideas and assumptions that instrumentalize nursing practice (i.e., what Goodman and Berry referred to as “the world of efficiency”) did not teach this nurse to care for the patient in that specific way. In other words, we inherently know so much more than what the world of specialization and enclosed professionalism teaches us to value. Nurse educators must look beyond the world of efficiency to realize that there are many other forms of knowledge that are pushed aside and even lost by dominant perspectives. This strand reminds nurse educators that it is time to challenge current normalizations in nursing education, as they do not keep us or patients safe, nor do they contribute to health and well-being.

**STRAND III: IMAGINATION IN PLACE**

In the last section, we talk about the practices, traditions, and behaviors within the commons that help support well-being. The act of imagining our ability to create another way of living together that supports well-being represents the third strand of the EJE theoretical framework. In other words, this strand asks us to think about what ought to be in the places where we live. To imagine is a vital and imperative step to make any sort of changes that are critical toward flourishing. Scheffer and Rubenfeld (2000) noted that imagination of alternatives is another dimension of critical thinking in nursing, and Martusewicz noted, “We have to
imagine what we want and why, in order to think through how to get there” (personal communication, March 15, 2017).

The EJE framework is a powerful reminder that we are embedded in a large and diverse system and within that system lie all types of relationships (human as well as nonhuman), and we must imagine and see (Berry, 2012) our place among those exchanges. Berry (2012) noted,

For humans to have a responsible relationship to the world, they must imagine their places in it. To have a place, to live and belong in a place, to live from a place without destroying it, we must imagine it. By imagination we see it illuminated by its own unique character and by our love for it. By imagination we recognize with sympathy the fellow members, human and nonhuman, with whom we share our place. By that local experience we see the need to grant a sort of preemptive sympathy to all the fellow members, the neighbors, with whom we share the world. (p. 14)

Once that preemptive sympathy enters our consciousness, we are charged with providing action and advocacy in our community in order to care for it. To imagine one’s place in a community is to care and hold affection for that community. Again, Berry (2012) noted, “As imagination enables sympathy, sympathy enables affection. And in affection we find the possibility of a neighborly, kind, and conserving economy” (p. 14). For instance, caring for the water as part of the environmental commons and seeing it as a vital community member would help to increase the health of the community, including the health of more-than-human beings.

This idea hit home for the author (Wilson, 2017) during the Flint River crisis, as she counts practices in the Flint area as constituting a part of her own commons. For instance, the author has always held a close relationship with the community surrounding the places in which she works or have worked, including the sights, smells, and sounds of the Flint farmers’ market, the wonderful exhibits at the Sloan Museum, and the neighbors that she became close to while living and working within the city of Flint. The author also has developed a close relationship with the fields, woods, and river that constitute the environmental commons. She enjoys walking with her dog among the trees and the air that rushes through them as she sits relaxing at the Flint River. Further, the people of Flint rely on water (however we are given access to it) to live. The wildlife in the region relies on that river to live too. The people ought to have the right to participate in the decision-making concerning matters of their own life and death. That ought to be a part of their commons too. However, as stated in the CEA, the right to democratically determine how Flint or Detroit water should be accessed,
or what should happen once the problems were discovered, was undermined by the appointment of an emergency manager.

Although there has been outrage voiced by residents and local community members including nurses, the nursing profession did not take the opportunity to fully collaborate and provide a voice of concern from a group that supposedly cares for human beings. The authors have witnessed nurses and nurse educators working diligently to provide lead testing and bottled water to residents, but we are not seeing our responsibilities as including the entire gamut of relationships and opportunities. Nurses may not see the Flint River as deserving of our attention and care, for example. As Martusewicz (2013a) noted, “To protect a place, to really love it, we must be able to see it in our mind’s eye both for what it is and in all its possibilities” (p. 301), which requires the act of imagination. Without imagination, we fall into an anthropocentric and normalized view of the effects of lead and other toxins on human beings exclusively, or we fail to recognize the fundamental interconnections among all those affected along the way. Berry (2012) noted that this “lack of imagination” (p. 13) constitutes a lack of seeing or connecting and demonstrates the ability to separate oneself from one’s home.

If nurse educators were aware of the factors that led to this crisis (industrialization, anti-democratic installation of emergency managers, disconnection from a large network that includes more-than-human beings, the lack of priority dedicated toward treating the corrosive water in a poor, urban community, or a struggling city that was over budget and used the cost of water as the deciding factor in using Flint River water instead of Lake Huron water), perhaps they would work to protect a community that includes elements such as wildlife and water. If they understood their place in this community beyond narrow professionalism and institutional expertise, perhaps they would become more politically active and work to conserve the practices that protect the environmental commons and transform practices that background and minimize the care of water as a member of the community. In other words, imagining their role as servants of the holistic health of a community, nurse educators would make sure that nursing students understand their connection to the environment and all members in order to ensure the well-being of human beings who are imbedded within Flint and the larger community.

Nurse scholar Falk-Rafael (2006) recognized the role of nurses as citizens who are politically active in helping to change culture and care about health within a context that mimics the priorities of EJE:

Nursing’s fundamental responsibilities to promote health, prevent disease, and alleviate suffering call for the expression of caring for humanity and
environment through political activism at local, national, and international levels to bring about reforms of the current global economic order. (p. 2)

Falk-Rafael (2006, 2015) contended that unless we become aware that caring is framed through social, cultural, economic, and political structures, we will not hold affection for health. Further, a lack of imagination regarding a holistic notion of health that is part of an interdependent system with Others will perpetuate the structures that harm this interdependence. This lack of imagination will contribute to a sense of numbness and disconnection to an ecological system in which we are imbedded.

Ultimately, to imagine is our ethical responsibility as nurse educators. Martusewicz (2013a) stated this responsibility clearly: we are charged to help students to “. . . envision what the world needs and give it their hearts . . . If we are not doing the important work of asking our students to take loving responsibility for the world, what are we doing?” (p. 301). Once nurse educators are aware of this responsibility, they can begin to create and construct a different idea of what it means to have affection for a community that is filled with goodness and flourishing to support well-being and health.

A Pedagogy of Responsibility
The three strands together form the spokes in a hub of enhanced pedagogy and responsible practice, or a “pedagogy of responsibility” (Martusewicz & Edmundson, 2005, p. 71; Martusewicz et al., 2015, p. 22) for nurse educators and, in turn, future nurses. A pedagogy of responsibility comes alive when educators elicit provocations from students that cause them to ask themselves, “What are my just and ethical obligations to my communities?” and “What needs to be conserved and what needs to be transformed?” (Martusewicz et al., 2015, p. 22) which is in direct contrast to the disregard for the environment along with relationships that are not financialized and commodified.

An awareness of this responsibility among nurse educators can lead to transformation in nursing education and what Bezdek (1991) explained when she advocated for law students in helping underrepresented and poverty stricken clients as a “reconstructed knowing” or “counter socialization” (p. 1161) from the dominant discourses that separate nurse educators and nurses from their communities and the larger, living relationships. Nurse educators can also bring about what Martusewicz and Edmundson called an “eco-ethical consciousness” (2005, p. 73) that recognizes that human beings are interdependent and hold relationships with other human and nonhuman members on this planet (Martusewicz & Edmundson, 2005), and this idea radically changes a nurse's awareness when it comes to caring.
INTERVIEWS FROM NURSE SCHOLARS

In Wilson's doctoral research (2017), seven nurse scholars were interviewed who challenge and resist the dominant discourses that contribute to the common definition of health (i.e., merely the absence of disease) among other definitions in nursing education. The scholars provide us with examples of what is at stake if we do not shift from the current mind-set in nursing education (i.e., one that does not consider the environment as a vital member on this planet) to a perspective that includes the full consideration of nursing education's position on health within the larger set of social and ecological crises. The methodologies of case studies and critical discourse analysis were applied, which are an inherent part of an EJE theoretical framework.

Following are some of the main modernist discourses that were highlighted and challenged by the scholars. The participants also offer counter discourses that can replace current perspectives and can help offer a more holistic approach and proactive solutions to fully understand and avoid events similar to the Flint Water Crisis and the Detroit Water Shutoffs.

Challenging Modernist Discourses

Anthropocentrism (Human Supremacy)
As noted earlier, anthropocentrism is the notion that human beings are superior to all other species (Martusewicz et al., 2015). This notion separates us from the natural world. In the interviews, the nurse scholars exposed the assumptions and expectations of anthropocentrism. For instance, one scholar who requested anonymity was very clear about a human being's dependence on nature:

. . . It's always been that my spirit actually needed these things . . . I'm real clear that humankind cannot live without the plants and the animals and the earth. . . . When you're in a relationship with plants, you just see the life cycle over and over and over again. And that really started me to having a different relationship with my plants. I work through a lot of things with them. It's really helped me as I've thought about what it means to age as a person to see the changes in myself, let alone other people.

This scholar realized her connection with nature and how it taught her about the patterns of life, while nurse scholar Nancy Johnston relayed her frustration with our disconnectedness with nature:

If we could exist the way that nature intended instead of always seeing it as a resource to be exploited and as a, a kind of a resource that has no end. . . . We can't continue to do this or the effects on health and on the future of the health of future generations are going to be disastrous. Yet we continue anyway; it's just shocking.
What Johnston was referring to is our inability to acknowledge our limits as human beings because we believe ourselves to be outside of nature and not within it (Plumwood, 2002). That separation creates marginalization and disregard for the complex diversity that creates the natural world, including human communities.

Nurse scholar Pat Butterfield lamented our disregard for the amount of waste that hospitals generate on a daily basis. She said, “Unfortunately, the world is filling up with garbage really quickly and health care generates about 8% of the nation’s carbon footprint. And we really need to be doing different types of things.” Those different types of things include practices that are more sustainable and an awareness of our effect on the Earth, as members within it. Scholars like Dorothy Kleffel are certainly aware of the effects on the Earth and the “environmental crisis” is what keeps her up at night (Martusewicz & Wilson, 2019; Wilson, 2017). In her publications, Kleffel wrote about Jacquelyn Fawcett’s metaparadigm for nursing that is a foundational model for identifying core concepts of nursing (i.e., person, environment, nursing, and health). Kleffel noted that the environment is “not well defined” in nursing education and points to our inability to place value on a larger sense of environment as including complex living systems (Martusewicz & Wilson, 2019; Wilson, 2017).

Some nurse scholars openly confessed that being human in this culture causes problems in the environment, recognizing their own unavoidable complicity. Nancy Johnston noted,

I am the person who pollutes the atmosphere and causes the climate to change, which causes the waters to rise and which causes mosquitoes to grow and third-world people to suffer even more as a result of the greed that I have for more products . . . .

Peggy Chinn recognized this problem in her critique of the human condition seen as separated from the environment:

. . . We really are not separated from our environment at all. And the environment is so much more than just where we live . . . . And our oneness with it. But I think it’s really hard for all of us to comprehend the fullness of what that means . . . It’s really hard for us to move beyond what we immediately perceive.

Johnston and Chinn openly described our anthropocentric stance and shortcomings of the majority of human beings and nurse educators, including themselves. This recognition of the way value hierarchies work as forms of exclusion or inferiorization was also articulated in terms of gender.
Androcentrism (Sexism or Male Supremacy)

Benny Goodman noted:

I chose nursing because I had an experience as an inpatient during my time when I was in the Royal Navy, I had broken my leg and spent six months in hospital...I met male nurses for the first time. Bearing in mind I was an aircraft mechanic, working on helicopters, so I met male nurses. And I thought then, I thought, “I wonder if I could do this job.” It just lodged in my head, having seen males doing nursing.

Goodman realized that seeing males in nursing helped him to overcome any reservations about nursing as a viable option, and later he confirmed that he was steeped in androcentric ideas. He noted:

There’s a gender blindness, and I’m with this whole literature because it’s a female profession and the role of women in society is undervalued, invisible, and total abject subject positions where you are disempowered, not listened to, the knowledge base isn’t accepted. If it’s not male, technical, scientific, measurable, quantifiable, it doesn’t exist.

As a primarily female profession, nursing is devalued, creating what David Allen called an “intellectual underclass” when compared to professions that are considered masculine, such as physicians in the medical field. Peggy Chinn and Dorothy Kleffel offer a profound summary of their rationale. Chinn said, “Well, I, kind of entered nursing in the generation that women didn’t, weren’t perceived to, have many choices,” while Kleffel offered, “During the 50s there were few professional options for women.” According to Chinn, the discourse of androcentrism remains powerful as it affects decision-making among females today. She described her journey as a female into nursing as “kind of an embarrassing journey too, because it was so fraught with lack of intention and purpose . . . I mean I’ve reflected on that a lot because that’s so typical of so many women even today in terms of not being clear.”

Rationalism/Mechanism

Earlier in this piece, we discussed the modernist discourse of mechanism, which promotes the idea that the world operates like a machine and can thus be broken down into parts in order to be fully understood, ordered, and controlled (Bowers, 1997; Martusewicz et al., 2015). The related discourse of rationalism holds that the scientific process is the only way to know or understand phenomena and, as it intersects with androcentrism and the mind/body dualism, is primarily the purview of men. The body, occupying the inferior side of the divide, is fragmented into parts as a means of isolating, studying, and treating disease in the medical fields, including nursing education. For nursing, embracing rationalism is a move
to gain power in the institution, and the process of objectifying and dividing the body to be studied is an analogue of the disease of fragmentation in modernity. When the body or any part of life is isolated into individual parts, the generative relations that interact to create a living system are overlooked. Divided into parts in order to be measurable and meet institutionalized “efficiencies,” healthcare practices and relationships are hierarchized, standardized, and under the strict control of specialists and experts who think mechanistically.

The discourse of mechanism is also noted in the emphasis on outcomes or solvable parts. For instance, if one thinks in the linear terms of cause and effect applying reductionist thinking, problems or results are assumed independent pieces of the whole (Martusewicz et al., 2015). Nancy Johnston describes this outcome-driven approach a “danger” in nursing. For example, passage rates for the NCLEX-RN or state boards take priority. She noted:

... there is a danger that all of that efficiency model—passing, getting students through, making classes accessible to students—is overshadowing the other aspects that we would really consider to be important about a true education ... we haven't found necessarily the right balance.

Johnston notes that “objective knowledge” is important, but nurses need “different types of knowledge in order to make a decision and gather information,” such as knowledge that is considered subjective and immeasurable, in order to achieve balance in their training.

Nurses who think mechanistically are what two of the nurse scholars called “technicians” and “unthinking technicians,” who do not seek a higher discipline or consider more complex relations in society or in nursing. Peggy Chinn observed this in the graduate students she mentors:

...I am just increasingly concerned about the fact that even at the doctoral level it has become and it seems to me to be so regimented and so prescribed and almost to the point of eliminating any kind of creativity and terrorizing students about plagiarism to the point that they cannot think an original idea, much less want an original idea ... I've encountered close to a hundred doctoral students and I have yet to encounter one situation where they come with a different idea.

Mechanism and rationalism standardize and homogenize ideas to recognize “positive outcomes,” but these discourses do not encourage students to “explore original ideas” or reflect on “their own lives and world and what can we bring to the reality that we exist in.”

Benny Goodman described mechanism as a “treadmill-like quality” in nursing education. Nancy Johnston has experienced the results of this “treadmill”
approach as a relative who had surgery was taken care of by some “superb nurses and some abysmal ones.” The “abysmal” nurses “treated him like he was just one more piece of work that they had to get done. Some of them even told him how busy they were. They were inviting him I think to say, ‘Well, you know, you don’t have to be bothered with me.”’ Goodman observed that same characteristic in some types of nurses:

An oversimplification is that there are two types of nurses . . . , there are the nurses who hold on to the cultural truth that their job is healing the sick and mopping the fevered brow in a hospital setting. And they absolutely love anatomy and physiology and the drugs etc., etc. They are the technical specialists. . . . don’t get me wrong, they’re not without compassion. They are not without care. They absolutely are. But their frame of reference is biomedical, technical, curing, healing, the fevered brow. The other are more humanistic, critical, inquiring, poetic, artistic . . . , they haven’t got a monopoly on compassionate care either. They haven’t got the monopoly on it, but they just think differently. And so the core value philosophy, poetry, sociology, psychology vary differently. They do the intangible aspects of presencing, touching, empathizing, listening, trying the unorthodox.

Goodman noted that the nurses who are not considered “technical” usually struggle with nursing school:

…because some of them are idealists and idealism can get crushed because they are interested in the human condition. And hospitals never have been places . . . , they’re not about the flowering of the human condition; they are places for sick people.

Hospitals are “places for sick people” that primarily focus on efficiency, outcome, and cause and effect. They do not provide the time for nurses to “listen to a person’s story,” because “…as soon as you’re breathing independently, voom, you’re out.”

**Individualism**

As described previously, the modernist discourse of individualism infers that the individual is valued over anything else, such as the community (Martusewicz et al., 2015). Health is measured in the form of behavior and outcomes and is situated within an individual human body without consideration of larger connections. This focus is also a concern of the nurse educators/scholars. Nancy Johnston described the philosophy of health and accountability that is valued in nursing education:

….So it’s not like we’re, we’re radically free and it’s all up to us as individuals and individual will to exert our will on the world. We’re already caught up
in it. And the world already uh promotes certain opportunities or denies them to us . . . Or that health is an individual responsibility, and if you have diabetes, well too bad you didn't take care of yourself.

Pat Butterfield took the same position as she explained why she wrote the article on “Upstream Thinking” (Butterfield, 1990):

I was also kind of frustrated with the emphasis that anybody that has a health problem it’s because of their own behavior, . . . that we need to kind of passively lay blame on people that have an addiction or unemployment or other types of things rather than looking at the dynamic of circumstances where they really don’t have a level playing field.

Both Butterfield and Johnston point out that situations of patients are socially and politically influenced, and they question the assumption of free will that is an assumption within the discourse of individualism (Martusewicz & Wilson, 2019; Wilson, 2017) and the positive outcomes that include a disease-free, individual body. Butterfield thinks that a person's socioeconomic and cultural context cause a lack of equality in healthcare. Peggy Chinn supports this notion and our call as nurses to honor all people regardless of difference; she stated, “We need to recognize that we are all walking a path on this earth and have equal rights essentially,” which creates the idea of one world that is not divided into two via categorizations such as socioeconomic status.

Self-Identified Shortcomings
At the EcoJustice and Activism Conference at Eastern Michigan University, visiting author Robert Jensen (2017) referred to being in Western culture as to being in a trap of expectation and assumption that supports modernist discourses including anthropocentrism, mechanism/rationalism, individualism, ethnocentrism, and androcentrism. These cultural traps create a logic of domination that saturates everyday life, even for those engaging in critical cultural analysis. Discourses function to create blind spots, or areas where we do not yet understand our own internalized subjective positions. All nurse scholars in this study expressed openness and humility as they identified their own perceived shortcomings, exposed within critical analyses of nursing education. Examining their own experiences within the larger cultural context allowed them to make fuller sense of the cultural ecological analyses they made.

Nancy Johnston described these shortcomings as tensions or “collisions” while remembering her ignorance in living and teaching in Africa. She noted: “It’s not until you actually live in another culture that you understand how culture-bound you really are yourself and how wedded to certain ways of thinking you really are.” “Another culture” is not exclusive to another country, as socioeconomic
status is part of a certain culture. One nurse scholar realized her shortcoming in this regard as a middle-class nursing professional filled with assumptions in trying to educate a lower socioeconomic status person on his newly diagnosed diabetes. The scholar noted, “He said to me, I cannot visualize food. I need money. And it was like, you know, ding, ding, ding, ding.” The “ding, ding, ding, ding” was the alarm bell awakening her to a lack of sensitivity or understanding about the man’s inability to pay for the treatment. In other words, there needs to be an effort to consider the patient’s social context and specific needs when prescribing treatment for a certain disease. The scholar realized that teaching the patient is “not about me,” and actions without consideration of the person being treated point to the “arrogance” of the healthcare industry in the lack of interest to “more fully address the client’s agenda.”

Four of the nurse scholars (David Allen, Pat Butterfield, Peggy Chinn, and Benny Goodman) shared that nursing was not their primary choice in career. For instance, Pat Butterfield noted, “I chose nursing not very intentionally but probably more by habit. I probably didn’t do a lot of discernment about career path.” David Allen chose nursing after reconsidering his application to medical school, as shared earlier in this section. Peggy Chinn “…just kind of out of the blue decided for no particular reason said, ‘I think I’ll become a nurse.’” Benny Goodman only decided to pursue nursing after noticing that men could actually become nurses in a military hospital.

We find the open identification of the ways these dominant discourses work in their own lives to describe an interesting dynamic. These scholars expressed courage as they revealed their struggles to address these issues of gender bias, patriarchy, mechanism, and anthropocentrism in nursing education. This is quite telling in a culture that is set up to define us and everyone else, and our enculturation makes it difficult to see beyond these discourses.

Identifying how these dominant discourses work to frame our experiences and identities opens up a new perspective of what nursing education has to offer, and this includes questioning the discourses and discursive practices that lead to social and ecological degradation. It is also important to note that the EJE theoretical framework supports these types of self-perceptions. The nurse scholars revealed the ability to examine how they have been captured in larger processes without blaming themselves or seeing it as individual shortcomings. Instead, they are reflecting on the difficulty of analysis given the nuances of power knowledge in the profession of nursing and within a larger cultural network. Such self-critique is not a simple task, but according to Allen, it can be accomplished by “simply making sure you’re around people who catch you …, who explicitly remind you because someone calls you on it or it visually reminds you not to generalize your point of view.”
Counter Discourses: Toward a Holistic View of Health

Against this narrow view of practice, the participants described a more complicated understanding of concepts that are prioritized in nursing education and are affected by political, cultural, and socioeconomic views. For instance, on the definition of health as described in nursing education, David Allen said, “We need to understand health as a political practice, not an individual behavior . . . . The most important choice, you make, you know, in terms of your quality of your life is the choice of your parents,” meaning that you don’t have a conscious choice. Pat Butterfield noted, “Environmental health determinants really shape opportunities for health,” and Nancy Johnston stated that health is “indivisible with social justice.”

In other words, the current definition of health in nursing education (i.e., the absence of disease) supports the notion that health is a commodity, or something that can be purchased and coveted as privilege, as perceived within the perspective of the dominant class. This perspective, while problematic, is not surprising since it is created within a capitalistic society that stresses efficiency, specialization, and volume for profit within an industry called healthcare.

The scholars also alluded to Berry’s notion of health being about holism. One participant noted that health represents “living with alignment . . . and integrity.” This idea transcends the elements that can be quantified in the healthcare setting, such as blood pressure, or serum laboratory results. Rather, health is defined as living with connection and interrelation with all others (Martusewicz & Wilson, 2019; Wilson, 2017).

Benny Goodman touched on the efforts in the late 1940s of the World Health Organization (WHO) to define health as a broader concept as the absence of disease. However, Goodman notes that what the WHO did not achieve was the idea that is counter to the modernist discourse of individualism or as he noted, “It doesn’t understand health as community . . . or membership” (Martusewicz & Wilson, 2019; Wilson, 2017). He continued,

So environmental health is more than just studying toxins being dumped in streams and that toxin having a cause-and-effect relationship in human health. But that is there obviously. Of course it is. But it’s much, much more than that. I am the environment. . . . The trees, the rocks, the airs, the oceans are as part of my self-concept and, they are part of my self-concept, I’m not a separate me. Experientially I’m a bounded individual with very clear material boundaries.

What Goodman means is that the discourse of individualism drives his experience; that the idea of nonboundary is hard to imagine as a rational human being in this culture (Wilson, 2017).
This definition of health as a condition of membership with others shifts our approach in nursing education in important ways. We move from the idea of health as the absence of disease, or the treatment of parts supported by the myopia of mechanism and rationalism, to the consideration of far more complex social and ecological relationships and their embodied effects. Nancy Johnston offers a broader perspective where mechanism or rationalism fall short:

There is a way of thinking that needs to be cultivated and, beyond that a way of being that needs to be cultivated. So, you know, if, if nursing is to be something more than preparing technicians to do technical tasks, what is it? Well, could we begin to think of it as, as a discipline that calls for certain kinds of ways of thinking and ways of being? And, if, if the latter, then it requires nurses to answer the question, well who am I? What are my gifts? How do I come to understand what they are? And how can I use them in, in such a way uh for, for the betterment of patients and, and uh the whole health care system and potentially beyond that too?

Nancy Johnston’s thoughts can stimulate nurse educators to ask themselves what pedagogical practices in the classroom can bring those kinds of inquiries forward, beyond technical or mechanistic thinking that supports narrow or limited responses to complex problems.

In the interviews, the nurse scholars imagined a different way to be in nursing education. Ideas and metaphors can serve to transform nursing education into one that honors connection with the natural world to increase the well-being of every member (including more-than-human).

Nancy Johnston described this eloquently in her words about the environment:

I have come to see myself as environment and environment as me as being indivisible. So I am the air I breathe; I am the ground I walk on; I am the food I eat; I am the community I live in; I am the community I contribute to. I am that. And I think out of that when you feel you are indivisible from the environment, when you really come to grips with that, it brings in a completely other paradigm, which is a kind of living with humility in the situation, the physical situation even that we find ourselves in and a recognition that I am the air I breathe, I am the biodiversity that I can partake in or not.

Living with humility as we care for others is a common theme that threads through these counter discourses. Being community-centered or seeing the “community as the basic social unit” (Martusewicz et al., 2015, p. 87) counters the dominance of individualism. The individual is only as important as the community (and this includes more-than-human members as well, such as the air, the
soil, the rocks, the water, the plants, and the animals). As Berry (1995) noted, “I believe that community in the fullest sense: a place and all its creatures—is the smallest unit of health and that to speak of the health of an isolated individual is a contradiction in terms” (p. 90). Benny Goodman agreed, as he stated during his interview that the profession of nursing supported “love and forgiveness and community sharing and togetherness” and that we are “nothing without each other.”

Nancy Johnston came to understand a sense of community within the classroom as she described herself as markedly affected by the larger structures of culture, and it made her rethink her role as a nurse educator:

So when you can come to see yourself in that light, it really does free you up to be able to think that others really do have something to say and what they have to say, even if it seems as if it might be against what you hold to be true. Your obligation is to hear it and to let it come forth in the classroom, to let other people engage with it, too.

The classroom community is where Nancy thinks that ideas need to be heard, regardless of whether they are against your beliefs or values as an individual.

Benny Goodman applies Berry’s term of “two worlds” by describing “the world of love meets the world of efficiency.” It is within this “world of love” where we honor difference in the form of counter discourses and knowledges as well as wholeness, patterns, and relationships (Martusewicz et al., 2015). Goodman (2015) described this counter discourse in his article, “Wendell Berry—Health is Membership”:

Berry sees humanity, community and the environment as one, as a “nonduality.” However, this is a view that hospitals and industrialised medicine struggle to understand and thus cannot “heal” or make “whole.” . . . healing, however, meaning reconnecting and making whole, is alien to many medical practices. (pp. 1011–1012)

What should not be alien to nursing education, according to Goodman, is the world of love or community and humanity and environment as one whole. Goodman suggested that nurse educators need to

get them (nursing students) to think about themselves. Get them to ask, “Who am I? What are my values? What are my strengths and my weaknesses? Where am I emotionally? What do I find challenging in my personal relationships?”

Goodman explained the place of the student within a discourse that offers an exploration of what it means to be human and the knowledge required and gained
when nurse educators allow for a curiosity about different forms of knowledge and not just “one way of knowing” (Martusewicz et al., 2015, p. 87).

Pushing this out a bit further, Pat Butterfield resisted the idea of individualism within the classroom as she looked at the “big picture” regarding her vision of education. She noted:

I think we can begin the conversations with students in a very different place in terms of the environment. And it almost can be a grounding for how we frame nursing. . . . In nursing, I think we begin the conversation of educating students with a very kind of deep dive into the nature of person. You know, the nature of an integrated person that has times of health and times of suffering and times of sadness. I don't think health is manufactured that way; certainly illness isn't. And it really happens more at a system level. And so wouldn't it be interesting if the paradigm for nursing education kind of evolved from the beginning with the whole person discussion in terms of a whole population discussion. And so, the conversation begins with, how is it you came to be here today? You didn't die of diphtheria, your water seems pretty clean, you had adequate nutrition. None of those are individual things.

This pedagogical practice makes students aware that they are integrated and interdependent within a whole and that they are responsible members of it. Such an approach requires recognizing limits, both ecological and human. Butterfield typified this type of pedagogy as “working without a net,” because it encourages different ways of knowing along with a perception that human beings are imbedded within a whole system that is much bigger than the human world.

Summary of Interviews
In the aforementioned interviews, the nurse scholars exhibited courage, humility, and self-reflexive ability as they identified the ways they have been personally impacted by dominant discursive practices in nursing and beyond. Their self-reflections are a powerful reminder of how our culture affects us as human beings. In addition, the nurse scholars have contributed to a clearer understanding of the overall themes and modernist discourses present in nursing education including androcentrism, anthropocentrism, ethnocentrism, individualism, and mechanism.

Limitations and Future Directions
Limitations of this research include a small sample size and researcher bias (i.e., I am a product of the discourses in which I was born and live within). These limitations go along with qualitative research. However, this form of research is another way of knowing to broaden our understanding beyond simple numerical data and statistical findings.
Most importantly, this particular research is a precursor to a complete set of interviews specifically asking the nurse scholars questions about the Flint Water Crisis and the Detroit Shutoffs in the context of citizenry and nursing education. Further information and analyses need to be undertaken to more fully identify the modernist discourses that the scholars revealed to more directly link to the Flint and Detroit crises.

**CONCLUSION**

The EJE theoretical framework will help nurse educators reimagine a new understanding and a powerful discovery that includes the awareness of a broad set of historically constructed and politically motivated power knowledge relations in nursing. Although cultural diversity, cultural competence, intersectionality, and transcultural nursing offer a broader theoretical framework than earlier frameworks in nursing, there is little consideration for the connection to our cultural practices and how they that potentiate violence and harm to the very social and ecological systems we rely on (and how our perceptions and actions contribute to our current cultural crisis including feelings of superiority and separateness), like the incidences in Flint and Detroit.

Increasing the awareness of social and ecological crises and how the perceptions, values, and behaviors of nurse educators and academic institutions contribute to these crises is imperative. It is our ethical responsibility to analyze and respond to these crises. Such recognition will help nurse educators to engage “pedagogies of responsibility” (Martusewicz & Edmundson, 2005) within the specific diverse conditions of their own communities. Once nurse educators understand the social and ecological connection along with the detrimental effects of the current state of numbness to that connection, they can begin to create a different way to see nursing and health that is linked to the health of the environment. They will begin to change the expectations of nursing in academic and healthcare institutions. New curricula and pedagogy will support different perceptions, offering hope and encouragement in the form of alternative ideas and narratives that will help to transform the current way of defining what it means to be a nurse and learn a new way of delivering nursing education (including a new way to define health). Facing the “that’s just the way it is” normalizations in nursing education requires the recognition of one’s power, and as Nancy Johnston noted:

…In learning something new, we have to be willing to let go of the old. And letting go of the old implies a certain degree of unsettledness, uncertainty, questioning, moving off from this secure shore into the unknown waters, which could be turbulent and the ship could go down. . . . We open ourselves up to the risk of learning.
It is my hope and desire that nurse educators will be open to the risk of learning and embracing this broader perspective on health and thus be catalysts for change in nursing education. Berry (2002) sums this idea up most eloquently, “The community—in the fullest sense: a place and all its creatures—is the smallest unit of health and that to speak of the health of an isolated individual is a contradiction in terms” (p. 146).

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