

# *Embodied Ethics of Mediated Touch: A Phenomenological Inquiry into the Nurse's Glove*

Gillian Lemermeyer, University of Alberta, Canada  
Email [gillianl@ualberta.ca](mailto:gillianl@ualberta.ca)

## Abstract

For the nurse, whether in hospital, community, someone's home, or almost every other healthcare setting, touching contact with the person in their care is inherent to nursing practices. Charged with the intimate and personal care of patients, the nurse's touch is often mediated by thin, latex, disposable gloves that affect and shape the nurse's touch. Yet, it is difficult to imagine a more mundane and unremarkable technology in healthcare than the unassuming disposable glove used by healthcare practitioners. In this phenomenological study, I explored how wearing and not wearing a medical glove might mediate the nurse's touch, revealing and concealing the embodied practices that the glove makes possible and impossible. This phenomenological inquiry considers the relational and embodied ethics of a basic piece of equipment, the nurse's glove. Concluding thoughts speak of the need for the nurse to remain aware of the relational experiences for both them and those they look after when wearing gloves.

**Keywords:** nurse, embodied ethics, glove, touch, phenomenology

## Introduction

Preoccupied with concerns for their ill loved one, the visitor to an acute care unit in a hospital may not even notice the various cartons of gloves fastened to the hallway walls or sitting on counters. Slightly larger than tissue boxes with similar oval-shaped openings, they are positioned in groups according to their sizes ranging from small to extra-large. A nurse walks down the hall, reaches to grab a pair without missing a beat, and puts them on while continuing into the room of a patient. The movement is so practiced it appears smooth and effortless. The nurse might only pause when the glove box is empty, and then smoothly alter course to a storage room for a new one. The gloves tend to be vivid in colour: blue, purple, green, and more other-worldly colours. When the nurse enters the patient's room to say hello and begin their work, the patient's attention may be caught by the nurse's hands in the bright and unexpected colour of the gloves. There have been efforts to exchange or enhance the practice of glove-wearing with hand sanitizer, application of which is itself a habituated gesture in healthcare settings.

However, the COVID-19 pandemic reinforced the ubiquity of donning and doffing gloves as part of a full personal protective equipment (PPE) costume.

For those who live in the world of the nurse, gloves are used so routinely that we may fail to notice them anymore. As well as being attached to the walls, boxes of gloves sit on counters and shelves and bedside tables. They can be seen discarded in every garbage bin. They are tucked into the bags of homecare and community nurses. Gloves make up a part of the scenery of the nurse's world. They exist unobtrusively as part of the background surround of other healthcare equipment, that ranges from expensive technical devices such as electronic heart monitors, programmable intravenous delivery pumps and adjustable electric beds to mundane and plentiful boxes of syringes and needles, plastic tubing and catheters. The gesture of reaching for the glove is recurrent and automatic, one movement in a choreography of people and equipment moving through the halls, the clinic, or the house, each with their own pace and rhythm. It was not always like this, and the origin of gloves in healthcare is its own story.

### **A Brief History**

Rubber gloves for use in the operating room were developed by a scrub nurse, Caroline Hampton, and a famous surgeon, William Halsted. Dr. Halsted had embraced germ theory and required the nurses and attendants in the operating room to scrub their hands and arms with caustic chemicals to kill the germs on their skin. Ms. Hampton developed severe contact dermatitis and was unable to work. In 1889, Dr. Halsted commissioned two pairs of gloves from the Goodyear Rubber Company of New York (Kean, 2020; Lathan, 2010). (This seemingly excessive generosity was also a gesture of courtship and the two would later marry). The gloves worked so well that other nurses and attendants also used them, appreciating them for their protection and their grip. A few years later, a protégé of Dr. Halsted, Dr. Joseph Bloodgood started to wear gloves in surgery and demonstrated a nearly 100% drop in infections after hernia surgery (Kean, 2020; Lathan, 2010). There was resistance to the change in practice, not least of all because surgeons worried they would not be able to feel the different textures of healthy and unhealthy organs during surgery (Keen, 2020). The surgeons were concerned that the glove would hamper their sense of touch which would cause them to make surgical errors and harm their patients. Their concern is one of ethics and their obligation to the other upon whom they are operating. The glove is implicated as a mediator of touch but is also itself a third “participant” in the touching encounter between the flesh of one and another.

### **The Nurse's Glove**

Of course, the use of gloves is not privileged in some way by nurses alone. Most people are familiar with gloves and their general utility. For example, thickly lined gloves keep our hands warm during cold winters, and water-proof rubber gloves protect our skin from the hot, soapy water while washing dishes. Mostly old-fashioned now, it is hard to deny the elegance of long silk gloves of evening wear, or thin leather gloves for driving. But none of these, the thick, puffy gloves of winter, the awkward oversized rubber gloves of kitchen chores, nor the graceful fashion gloves, are the nurse's glove. What, then, makes a glove the *nurse's* glove? Physicians, respiratory therapists, dental hygienists, dentists, occupational therapists, and other healthcare professionals wear gloves. And each of

these people may encounter the person in their care through touch mediated by the thin, stretchy glove. The nurse seems to be uniquely situated, not because they have a monopoly on care or relationship, but because the nurse engages in the most routine, bodily, intimate, and repeated touching contact with the people in their care. This significance of touch in nursing practices is true even if, unfortunately, “the nursing framework in contemporary times seldom considers the importance of touch” (Pepito, et al., 2023, 5838). The nurse wears (or does not) wear a glove to bathe, reposition, dress wounds, check pulses, provide treatments, hold a hand, rock a baby, and more.

The gloved touches of this inquiry are intimately related to the work of nursing, to the technical and compassionate physical connection of the nurse’s body to the patient’s body. In this inquiry, we are interested in those everyday ordinary and extraordinary touches where a nurse dons a glove. Not included here are those “specialized” touches of the nurse such as therapeutic touch or massage. That is not to say nurses do not touch as treatment, but what I am interested in are the embedded, inherent touches of nursing work, as shown in the examples here. How does wearing a glove, that is, how does the gloved touch matter to the experience of the nurse in their intersubjectivity? How might wearing the glove constitute and co-constitute, configure and reconfigure, form and reform, reveal and conceal the experience and relational ethics of providing nursing care? We ask what it is like for a nurse to wear a glove while touching the person in their care. The purpose of this phenomenological inquiry is to gain meaningful insights into the possible human experiences when the nurse’s gloved hand touches another.

## **The Nurse’s Gloved Hand: Encounters of Ethics**

### **The Automaticity of the Glove: Donning the Glove to be Ready-to-Nurse**

A nurse practitioner describes meeting a patient who requires a complicated dressing changed:

*I grab a pair of gloves as I walk into the room to examine the wound of a patient. I slip them on while chatting with her about how she is feeling and then set up a dressing tray.*

The gesture of reaching for and then donning gloves appears automatic for an experienced nurse in clinical practice. We might reach for them without really looking and talk to our patient as we put the gloves on, beginning the assessment without being sidetracked by the action of our hands. They are a part of the getting-ready routine almost entirely in the background, perhaps holding our attention for just a single moment; that moment when we reach for them. Only if they don’t fit, or we drop one, do we turn our attention to the gloves. Once on, awareness of the gloves seems to give way, and the focus of the nurse is effortlessly and automatically oriented to the patient and to the procedure that needs to be done. At times, the glove makes us ready-to-nurse.

While reflecting on the painting *A Pair of Shoes* by Vincent van Gogh, Heidegger (1971) writes:

The peasant woman wears her shoes in the field. Only here are they what they are. They are all the more genuinely so, the less the peasant woman thinks about the shoes while she is at work, or looks at them at all, or is even aware of them. She stands and walks in them. That is how shoes actually serve. (p. 32)

Similarly, the gloves serve. The nurse puts the gloves on, moves their fingers and hands in them, touches the patient with them and this is how the gloves serve: they are known in their usefulness. Once on, the gloves are what they are, and in their usefulness, afford the nurse the possibility to come to know their patient and to nurse.

Yet, the nurse's gloves are also different from van Gogh's shoes. We can imagine that at the end of the day, the shoes are carefully placed on a shelf or by the door, to be ready for the next day. The shoes might seem to prepare the woman for work in the field and if they are 'genuinely' what they are – if they fit well and are comfortable – they remain on her feet until the end of the workday, mostly unnoticed. On the other hand, the nurse needs the glove only for parts of the nursing work. The nurse wears gloves for many reasons and they move between tasks and patients, changing gloves. The gestures of putting on and removing the glove can be thought of as bookends to specific tasks of nursing. Donning the gloves is a part of the touching gesture that moves the nurse toward the patient, a piece of the preparatory ritual to being ready to do what needs to be done. In this way, the donning of gloves can be seen as the beginning move to relational engagement of nurse with patient. The gloves bring to the nurse a quality that they were yet without and donning the gloves discloses the start of a moment that is both gnostic and compassionate to the nurse and to the person in care. The gloves momentarily become part of the nurse, and simultaneously the gloves bring a nurse-ness to the hands that wear them. Putting on the gloves augurs a shift in the nurse's way of being and inevitably changes the experience of the professional, nursing world even if this happens unawares. The nurse is now able to nurse; to change the dressing, insert the intravenous catheter, clean the excrement, draw the blood, to touch the body of the patient.

### **The Possibility and Opportunity of the Nurse's Glove: Touching Clean and Messy Bodies**

It is easy to feel the soft plumpness of a newborn's arm through an exam glove, the tender yielding of muscles and flesh. With a refined and precise sensitivity, the forefinger and thumb of a well-fitted gloved hand can gently squeeze the baby's arm and retract the flesh just slightly, to create a tourniquet. The pressure required needs to be such that the underlying veins fill with blood, allowing the blood vessel to be more easily seen and felt, but not so snug as to cause pain or damage to the delicate flesh of a baby. There may be a sense of security as the materiality of the glove keeps both the baby and the nurse insulated from exposure to the microbiome of the other. The glove, in this way, makes the procedure safe, and by extension, possible.

However, it is not really possible to feel the exquisitely smooth texture of a newborn's skin through the glove. It might be hard at first to feel the bouncy resistance of the blood vessel with the tip of a gloved finger. With practice, however, feeling the vein can become quite easy, almost as if there is no glove at all. Wearing gloves might even make it easier to grasp the intracatheter device, a small plastic tube attached to a needle used to

deliver fluids and medication directly into the vein. The plastic polymerized glove-finger offers extra friction for a secure grip while smoothly inserting it through the baby's skin and into the inside space of the vein. It has been said that inserting an IV into the vessel – moving the needle first through the skin, then through just the close wall of the vein, but not through the other side - requires a certain touch. The nurse *feels* their way - feeling *through* the glove and the device to the end of the needle in the vein. The glove becomes nearly transparent to the nurse here; it is absorbed into the experience as an extension of the nurse's body (Ihde, 1979). However, Ihde notes that the things (or the machines, as he refers to even very nontechnical objects) in our world are never entirely absorbed into our experience. There is simultaneously an "echo focus", where one is aware of the glove pressing against one's hand at the same time as the inside of the vein is felt (p. 7). The echo of the well-fitting glove softly pushing back against the nurse is faint compared to, for example, the grip on the intracatheter itself. The 'echo' of the glove is experienced as an extension of the skin and provides a layer of softened sensation.

*I see the wound is still draining fluid and pus. As I slowly remove the length of gauze packing that fills the wound, I am glad I have the gloves.*

The glove becomes present to the nurse when they recognize that by protecting them from the abject sensations of bodily excretions, the glove affords them access to the body of the person in a way that allows them to fulfill simultaneous nursing obligations or treatment and tenderness. The glove can *make possible* the care of a patient. The glove may reveal the patient's body to us as a body – whether contaminated and hazardous or defenseless and vulnerable – that we would not otherwise touch. The body that needs sterile touch, or clean touch, or unabashed touch: a touch that is not withheld or drawn back, not hesitating or cringing, even if involuntarily, away from blood or tissue or pus, from excrement or urine or vomit. In these moments, the body of the patient becomes disclosed to the nurse through the donning of gloves. A nurse removing the soaked and soiled packing from deep in the infected wound of another is grateful for the gloves that protect them from the possible exposure to harmful microbes, but also from the full experience of handling the sticky, bloody, or slick, slimy gauze. Similarly, it becomes easier to clean a patient of vomit or excrement when the glove mitigates the burden on the nurse of the involuntary bodily response of cringing or recoiling. The glove allows the nurse's touch to be capable, using just the right pressure, speed, dexterity as is required by the task, but also to attend to remaining tender here (Benso, 2000). In this instance, the nurse is able to fully engage with the nursing task and the person because of the lessening or dulling of sensation made possible by the glove.

### **The Impediment of the Glove: Being Obstructed from Nursing by the Broken or the in-the-way Glove**

*I begin to remove the dressing but it is stuck so well I can't get an edge to lift off. I should have known better; I can never get these dressings off with gloves on. I pull off my gloves and throw them away, annoyed that I can't lift the dressing. With my fingernail, I find a spot on the edge that has some give and slowly pull it off.*

The nurse may be confronted by the glove when it restricts the nurse's fine motor

dexterity and interferes with patient care: the glove is no longer useful but instead becomes cumbersome. It is no longer experienced as an extension of the nurse's hand; rather it is felt *between* the nurse's hand and the patient, conspicuous as an obstacle. Here, perhaps even the thinnest gloves are still too thick, when removing the dressing requires the very fine dexterity of our hands and the accuracy of our fingernails. What a moment ago was incorporated into the nurse's being, now becomes foreign and, once again an object separate from the body of the nurse. The nurse may be abruptly reminded that after all the skin of the glove is not their own skin, they cannot do all of the nursing things with the gloves on their hands. What happens when this is the case - when the gloves do not become a part of the nurse, but rather make the nurse's hands somehow not their own? The practiced, familiar movements may become awkward and require attention. The nurse's physical fingers are once again their 'real fingers', there is no longer a sense of transparency about the glove. When the glove becomes in-the-way, not only does the nurse's hand not work in the way it usually does, the nurse becomes conscious of their own self as not working. No longer able to do what normally is taken for granted, the nurse may need to learn a new way to use their now unfamiliar hands.

A long-time, experienced CCU nurse describes their response after a patient's death:

*After my patient died, I found myself doffing my gloves. It has become a practice of mine, I don't know why but I need to hold their hand or touch their face to say goodbye. I feel the temperature of their skin with the back of my hand, there is something about feeling the lingering warmth with my hand that acknowledges their present in the midst of the loss.*

As well as sometimes acting as an actual physical impediment to nursing tasks, there may be times when the glove feels in-the-way of a relational gesture of nursing such as saying goodbye to one's patient at their death. The nurse removes their gloves because the work of resuscitation or life-saving treatments has come to an end. Yet, the connection to the patient may not feel over. The work of nursing the dead is just beginning, as the nurse will move on to bathe and prepare the body for movement from the CCU. *Feeling the lingering warmth* reminds us that touch is always mutual, whenever the nurse touches another, they are always being touched back. Being touched is inherent to touching. Merleau-Ponty (1968) describes touching one's own hand in this way, of being so intimately connected that the touching and the touched become the same flesh:

This can happen only if my hand, while it is felt from within, is also accessible from without, itself tangible, for my other hand, for example, if it takes its place among the things it touches, is in a sense one of them, opens finally upon a tangible being of which it is also a part (p. 133).

The nurse's bare hand feels from within (their own warmth and presence) and from without (the cooling warmth of the dying patient). Even in the case of a lifeless body, the nurse's hand is not only feeling but also "being touched" by the lingering warmth. Of course, the patient's hand or face is no longer touching back intentionally, yet still it gives something to the nurse. In death, the nurse seems to be touched, ethically and existentially, by the other's presence. How can this be? In that moment, the nurse's gesture becomes not just one of good-bye but also one of recognition. By being open to

touch, the nurse is already part of the person who lays lifeless on the bed. That is, they are both persons of the flesh of the world. The relational and embodied connection made through an ungloved touch of the nurse's hand to the dead person's face would not be possible with the muted sensations of the gloved touch.

### **The Expendability of the Glove: Consuming and Throwing the Disposable Glove Away**

*I discard the soiled and soaked gauze used to pack the wound and with it, my now soiled gloves.*

There may be a sense of conclusion when the gloves are taken off and thrown away. To avoid contamination from dirty gloves, we tend to peel them off in a particular way, making sure to touch only the outside of the first glove which, once off, is crumpled in the palm of the second. The second glove is then pulled off in a neat gesture of hooking a finger or two inside the edge at the wrist, inverting the glove as it is pulled off and capturing the first inside the second. Removing the glove happens with an inside-out gesture; it is now the inside (turned outside) surface that protects the nurse from the soiled outside (turned inside) surface. This gesture of donning and doffing the glove is repeated over and over throughout an 8- or 12-hour shift, an extension and reflection of the choreography of the nurse-glove relation. The dirty glove might be seen as more than trash but also as the finality of a nursing task, signaling that it is time to move forward.

*It was at the end of a failed resuscitation with a patient we didn't expect to code - the patient appeared to be stabilizing and then suddenly seized and went into a full VFIB [ventricular fibrillation] arrest. I am the only nurse in the room, an isolation room, so I call for help and start CPR. Because I am the only one with full PPE I have to continue for at least 3-4 minutes while the team gets the crash cart and dons their PPE. The resuscitative efforts only last about 20 minutes before the physician calls the code. I say out loud "What the hell?" and I leave first, doffing all my PPE. I take my gloves off and toss them in the garbage as I leave the room - trying to process why there isn't anything else we can do for the patient. Throwing away the gloves feels like a gesture of finality, part exhaustion, part regret, wanting to loosen myself from the heaviness of a failed resuscitation.*

It is not unusual for a critical care nurse to see a patient take a sudden turn, to call for help, to perform CPR, or to move into a full resuscitation effort for their patient. It is not unusual for patients to not survive these efforts. This is not to say a critical care nurse ever "gets used to" the death of a patient. Still, there are those times when a resuscitation is far from the nurse's mind, when they expected to have a relatively quiet shift with a recovering patient who they may get to chat with and see them again at the beginning of tomorrow's shift. So, a sudden seizure followed by a fast and erratic heart rate comes as a shock. The nurse's embodied skills and habits take over, to call for help and begin CPR. The three to four minutes of chest compressions on the patient's body, an exercise that requires full body exertion, likely feel like hours. Once they are fully dressed in PPE, the rest of the team enters the room, calling for medications, assessing for heart rate, the scene develops a rhythm familiar to critical care healthcare staff, and the nurse plays their part. After the code is called, meaning the resuscitation is not restoring the patient's

heartrate and the patient is dying, the nurse is affected by the death, the possibility of which seemed far away just a moment earlier.

What makes the death of one patient particularly meaningful or distressing? The nurse is not passive in their role and at the end, feeling disappointed, frustrated, and sad, perhaps even betrayed or surprised at the abrupt end of the resuscitation and death of a person who had seemed stable, they step back from the situation. They no longer need the armour of PPE and gloves to provide for their and the patient's safety. What is thrown away along with the soiled gloves? The gloves are no longer helpful as a medium of touch or necessary to prevent infection or contamination but seem to act as markers of separation from the resuscitation and death. As reminders of the futility and loss, there is some urgency to remove them. As the nurse divests themselves of the gloves, they might hope to also divest themselves of the "heavy" remnants and residue of effort, failure, grief, and perhaps even their own complicity.

### **The Undesired Glove: Called by the Vulnerability of the Other to Remove the Glove**

A nursing student recalls:

*We were taught to always wear gloves when bathing a patient, but I decide today that I am going to use my hands. I felt that the patient, a kind, elderly and very frail woman suffering from COPD and other ailments, and whom I had come to know and even grown quite attached to, might benefit from a kind touch without a cold, sterile layer of latex between my hand and her tired, old body. I wash my hands with warm soapy water from the sink in her single-bed hospital room. I prepare the water and washcloths and, chatting casually with her, I begin to bathe her in bed. After about 10 minutes, I am done. The patient looks up at me and smiles, says "thank-you so much, you're so kind to me." I felt my eyes grow hot with tears- sudden tears, I'm not sure why. I leave the room and think to myself, "this is what it's like to be a nurse."*

In certain moments of nursing, the glove may become present to the nurse in a way that exposes them as ethically conspicuous; it seems *wrong* to wear the gloves. The student nurse is addressed by the older, frail, woman, by an ethical demand to be present with her, in a spontaneous gesture of embodied ethics. The student nurse describes an immediate, felt response, in this moment. The ethical demand is strong, yet soft because it is rooted in the vulnerability of the patient. The nurse is not forced to remove the glove but does so in a gesture of responsibility, affection, even. We have seen that the glove can be a sort of bridge to being a nurse, to make nursing possible, but here we are reminded that sometimes, wearing a glove may make nursing impossible, by impeding the nurse-patient relation.

There is a particular kind of skill required to give someone a bath in bed. If the nurse moves too quickly, the person may feel like a scrubbed object. If they move too slowly, the water becomes cold and needs changing. If the cloth is wrung out too much, the person may not feel cleansed at all. If it is not wrung out enough, soapy water drips on the bed, and around the back of the neck. If the towels and blankets are not draped to cover those parts of the body not being bathed, the person may feel exposed and

undignified. Of course, if they are draped too much, the nurse cannot do the bath at all! Hopefully, we can see that the practical skills of the bed bath are inseparable from their ethical significance. While the bed bath is often described as a “basic” skill and referred to assistants, it is hard to understate the ethical and existential connection that may exist between one person washing another.

In her attempts to show the complexities and meaningfulness of nursing, as held within its practices, Brenda Cameron reflects on the nursing bath. She notes that nowhere in the nursing grand theories and models is the question raised of “what is it like to stand before a naked human being?” (2006, p. 25). Her question invites us to consider the nurse’s experience as not only one of routine or skill, but as a moment where intersubjectivity and ethics may show themselves. By choosing to remove the gloves, the student nurse’s skin touches the woman’s skin in the motions and cadence of a bed bath: cleansing, rinsing, drying; one part of the body after another. While washing, the student nurse feels the texture and temperature of the elderly woman’s skin. They also feel their own hand, warm with the sudsy water, not only doing the touching but being touched in return by the softness and fragility of the other. The student is also vulnerable to begin touched, not only physically, but affectively, ethically.

We might again evoke Merleau-Ponty and recall that touch is always mutual; we are always being touched when we touch, and the sensations are reversible and never fully separable (Merleau-Ponty, 2012). But what is reversibility, when touching another? Merleau-Ponty does not mean that touching and being touched are perfectly reciprocal, but that every act of touching is simultaneously an act of being touched. The sensations continually cross over, the nurse reaches out to touch and feels the warm resistance of another’s body, and is always, already being touched in return by them. Further, Merleau-Ponty’s notion of the *chiasm* names this crossing-over, in which the toucher and touched intertwine without ever collapsing into one another (Merleau-Ponty, 1968). He is not suggesting that the two people are merged through touch, and that is the beautiful part – we each remain ourselves but intertwined, meeting in a shared vulnerability, each implicated in the other’s embodied life. In the intimate encounter of bathing, the chiasm, this intertwining, may become perceptible as an experience of intersubjectivity and embodied ethics.

## Concluding Thoughts

The aim of this inquiry was to open up the experience of the nurse’s use of gloves in an effort to better understand embodied ethics in nursing practices. The modest disposable glove of the nursing world is deeply entangled with, and implicated in, the nurse’s touch. We have seen the glove as a mediator of touch, a bridge to being able to nurse, a barrier to touch, a symbol of separation, and finally, as something that must be removed in response to the ethical demand of another. A phenomenology of the nursing glove cannot be concerned with decreasing the rate of infectious disease transfer between patient and nurse. Nor can it prescribe a practice guideline that outlines when gloves should or should not be worn, although it may remind the nurse to consider the glove in a new way.

The phenomenology of a nurse's glove might seem a rather humble study. Yet, phenomenology is well suited to reflecting deeply on the ordinary and everyday aspects of life, to better understand life as we live it. By turning our attention to the glove as it comes alive in the world of the nurse we are pointed toward the ethical, existential, and intersubjective nature of the nursing-patient relation. Gently raising the glove to our consciousness as nurses we may come to more deeply understand the work of nursing or be reminded of its inherently ethical nature. As I contemplate these concerns my attention cannot help but also consider the experience of those who are touched by the hands of the nurse, wearing gloves or not. Perhaps, through the gestures and reciprocity of touch, we are reminded that nursing is always lived in intersubjective relation.

## References

- Benso, S. (2000). Touch, Attention, Tenderness. In *The Face of Things: A Different Side of Ethics*. (pp. 159-172). State University of New York Press.
- Cameron, B.L. (2006). Towards understanding the unrepresentable in nursing: Some nursing philosophical considerations. *Nursing Philosophy*, 7, 23-35.  
<https://doi.org/10.1111/j.1466-769X.2006.00246.x>
- Heidegger, M. (2001). The Origin of the Work of Art. In *Poetry, Language, Thought*. (pp. 15-86). (Albert Hofstadter, Trans.). New York, NY: HarperCollins. (Original work published 1971).
- Ihde, D. (1979). The experience of technology: Human-machine relations. In *Technics and Praxis* (pp. 3-27). Reidel Publishing.
- Kean, S. (2020, May 5). The nurse who introduced gloves to the operating room. *Distillations Magazine*. <https://www.sciencehistory.org/stories/magazine/the-nurse-who-introduced-gloves-to-the-operating-room/>
- Lathan, W. R. (2010). Caroline Hampton Halsted: The first to use rubber gloves in the operating room. *Baylor University Medical Center Proceedings*, 23(4), 389-392.  
<https://doi.org/10.1080/08998280.2010.11928658>
- Merleau-Ponty, M. (2012). *Phenomenology of Perception*. (D.A. Landes, Trans.). Routledge. (Original work published in 1945).
- Merleau-Ponty, M. (1968). *The Visible and The Invisible*. (A. Lingis, Trans., C. Lefort, Ed.). Northwestern University Press. (Original work published 1964).
- Pepito, J.A.T., Babate, F.J.G. & Dator, W.L.T. (2023). The nurses' touch: An irreplaceable component of caring. *Nursing Open*, 10(9), 5838-5842.