

Dry Eye

I see ghosts. I see them early in the morning and late at night when restless spirits shift between life and death. I see ghosts in the bright lights of oncoming traffic and through the branches of trees that sway back and forth in the wind. They lurk behind the shivering words in books and mirror the shadow hands of clocks. These ghosts that I see—with their undefined boundaries between the living and the dead—exhaust me. I want them to go away. Fortunately, at least, I only see them with my left eye and the cause is not life-threatening—not a brain tumor, stroke, or aneurysm, for example—as is often the case with these sightings.

My optometrist calls my ghost sightings *double vision*, or—in my situation where I only see ghosts with my left eye—*monocular diplopia*. When I complained about these visions a few years ago—the year I returned home from Spain only to find the edges of everything blurred and my father months from death—my eye doctor shined a high-intensity light on the surface of my left eye and discovered something that he had never seen in one of his patients. I had developed a dividing line—a deep aberration—across the center of my cornea, that once clear and now fragile window into my soul. This aberration—a *failure of light rays to converge at a single focal point because of a defect in a mirror or lens*—appears as a wrinkled ridge on the surface of my eye. It completely spans my field of vision, in effect giving me a ghost image or doubling of everything I perceive, despite my strong prescription for near-sightedness. Essentially, I have a textbook case of cornea damage that affects my sight and is the result of chronic dry eye disease. There is no cure for this affliction that I developed in middle age, though—strangely—it is something that I recognize having always endured in a similar way, even as a young child. I have always viewed the world differently.

Eventually I learned to live with the idiosyncratic right side of my brain—the creative side that naturally dominates my thinking and controls the left side of my body, including my left eye—the side where I understand life best through metaphor, the comparison of one thing to another in order to identify their similarities. I am more compassionate because of these parallels that I see in otherwise uncommon things, but I am also more sensitive and prone to depression. Life is much easier when there are clear lines that divide one thing from another, and so the left side of my brain—that rational and logical part of my being—has always worked hard to correct the erratic and unpredictable thinking of my right side. It corrects the double vision of my flawed left eye and the tendency that I have toward metaphor. It wants to see everything with crisp edges, absolute boundaries, and insurmountable border walls between countries. In a fraction of a second my brain receives images from both my eyes—one flawed and the other normal—processes them, and then creates for me a three-dimensional awareness of my surroundings where I perceive length, width, and depth so that I can determine where I exist in the world.

During this process, the ghost images of my left eye are—at least for the most part—suppressed by my more dominant right eye—the logical side—and so I can manage through life without too much of a problem. I can still drive a car. I can usually read a book and thread a needle. Except on a few rare occasions, I move through life without bumping into the corners of tables or stumbling down the stairs. I can pour hot coffee without worrying I will miss my cup and spill on the table. I can even survive for years without seeing the similarities between two otherwise very different things, such as my dark childhood and Pablo Picasso's *Guernica*, the famous painting about a city that was destroyed during the Spanish Civil War.

In essence, I can effectively blend into a crowd.

Ghosts surrounded me even before I developed dry eye disease. When the priest presiding over my baptism poured water on my head as a newborn, I am told that I did not cry out in fear, but most likely my neural cells—the cells of my brain responsible for receiving sensory input from the external world—were already dividing in an unusual way; eventually I would see the duality of most things in life. Water would become for me not life through baptism, but death: the cold glacial lake in which my uncle accidentally drowned, the quiet river in which my aunt intentionally drowned herself, the overflowing sink basins of my obsessive-compulsive mother who cried without ceasing and was unable to stop washing her hands. It is probably no surprise, then, that in the few remaining photographs of my baptism, we are all double-exposed. My mother stands next to my father, tightly cradling me—she was still willing to touch me at that point—as if I were about to pass through a wall or float away in my long white sheath. In these double-exposed photographs—a ghost-like phenomenon that once occurred with old cameras where film would fail to properly advance after exposure to light, resulting in two different images overlapping on the same frame—we are all ghosts, which is to say that we are ourselves, but then something else that is a harbinger for death.

Now when I look at the photographs of my baptism and am aware of the course of my life, I see—even then—that I had a peculiar attraction to those ghosts that were already swirling around me. In 1919, the British writer and physician Arthur Conan Doyle—during the devastating Influenza Pandemic and grim conclusion of World War I—said the following within the context of Spiritualism, a movement during the early 20th Century where individuals believed that it was possible to communicate with the dead:

....the soul is a complete duplicate of the body, resembling it in the smallest particular, although constructed in some far more tenuous material. In ordinary conditions these two bodies are intermingled so that the identity of the finer one is entirely obscured. At death, however, and under certain conditions in the course of life, the two divide and can be seen separately.

While I could give all sorts of other examples of my double vision—this is, after all, how I see everything in the world—I will focus on the weeping woman in Pablo Picasso’s *Guernica*, the haunting masterpiece that reflects the death and destruction of the Spanish Civil War. I have chosen to focus on this painting because when I viewed this masterpiece in Spain, my father began to die, and—in that moment of viewing the weeping woman in the painting—the edges of my life and his death blurred. I found myself bumping into corners and stumbling down the stairs in this strange country where even a painting seemed more real to me than all the unfamiliar emotions I was experiencing. I needed to find a place, a thing—anything—where I could safely feel these emotions, and so *Guernica*, with its exploding bombs, broken bodies, and ghostly figures trapped in burning buildings, became my refuge.

Another effect of my chronic dry eye condition is the confusing effect of tears streaming down my face in the early morning. Because my eyes are not receiving enough lubrication in the thin hours of dawn—the hours when ghosts most frequently roam—they send distress signals through my nervous system. In response, my brain floods my eyes with emergency tears. These fake tears, though—like those of weeping stone statues or professional mourners hired at funerals—are not productive. They neither heal my soul nor coat the surface of my eye with

nourishment when the composition of my emergency tears is primarily water and lacking the necessary oils for proper lubrication; a healthy tear film is constructed of three complex layers: fatty oils, aqueous fluid, and mucus. I also lack the vital mucus that helps spread tears across the surface of the eye, as well as specific proteins that reduce the likelihood of infection. Because of these deficiencies, I experience none of the nourishing richness of normal tears that allow humans to fully express their emotions.

Even though I am no longer able to cry real tears, I still do everything that I can to soothe my dry eyes. I store bottles of artificial tears in nearly every room of my house and use them like vials of holy water to ward off evil spirits. I stay hydrated and frequently consume seafood high in omega-3 fatty acids, such as raw tuna and grilled salmon. During the dry winter months, I run humidifiers and hover over pots of boiling water. I practice guided meditation to ease eye strain and apply lavender oil to my tender trigger points. While I am at work, I take frequent breaks from computer screen time and try to remember to blink. In every aspect of my life—as a matter of course—I rely on my insatiable desire for knowledge, believing that it gives me an edge on the human condition; if I can understand the complexity of my emotions through the chemical composition of human tears, for example—with all their enzymes, lipids, metabolites and electrolytes—then, perhaps, I will not need to *feel* them. When every one of these interventions fail—as is often the case during my more difficult days—then I fall back on a few minor addictions and succumb to their numbing effects. I have been known to hide behind the bottomless pools of my dark sunglasses, even on cloudy afternoons when I am sensitive to light, and—once or twice when I was so desperate I could not see straight—while wandering the perilous corridors of my own home.

Most of the time I am able to restrain myself. Sometimes, though, during one of my more difficult days—when my sight narrows and my perception of time collapses—I quietly and discreetly decrease the interval between acceptable doses of pain medication. Nothing curbs the migraines. Behind my closed bedroom door and alone from the demands of life—alone in a room of my own—I close the curtains. Then I gently lay warm compresses across my eyes to calm my central nervous system—or is it my hurting soul that I need to soothe?—because it is now critical that I accomplish two objectives in direct opposition. I must in a single fleeting moment—that millisecond between stimulus and response—replicate the richness of authentic tear production while also dulling—even deadening—all sensory perception, and so I cannot possibly feel anything more.

I am bedridden.

These repressed emotions that I have from a lifetime of sightings—all the tenuous overlap of life and death, all the ill-defined borders of metaphor merging to a single focal point in my field of vision—are so powerful that I cannot easily regulate their flow. It is easier to not allow them at all, and so the emergency response of my nervous system comes at a high price.

I am no longer able to cry.

There appears to be a strong correlation between the occurrence of dry eye disease with psychiatric or neurological disorders, including stress, depression, anxiety, sleep disorders, and post-traumatic stress. In addition, the medications that are used to treat these psychiatric and neurological affiliations are also known to contribute to the development of dry eye disease. Ironically, dry eye—with all the effects of discomfort, pain, and foreign body sensations—all those ghosts crowding my field of vision—also exacerbates stress and depression. In 2015, *The British Journal of Ophthalmology* published a study of United States war veterans who

experienced unimaginable violence, such as sudden insurgent ambushes, IED explosions, enemy mortar rounds, and suicide bombing. The study suggests that there is a stronger relationship between post-traumatic stress disorder and dry eye symptoms than any physical abnormality related to loss of tear production.

In a small dark room, I remove my eyeglasses and carefully place them on my lap. My doctor instructs me to lean forward in the chair until I can comfortably rest my chin on the plastic cup of my optometrist's phoropter, a steel and glass instrument used to determine refractive error in eyes and the corresponding prescription. My hands are cold and clammy. My breath is shallow. I cover my right eye with the hand-held occluder—a black plastic patch effectively blocking messages to the logical left side of my brain—and attempt to focus on the blurry black-and-white images on the other side of the room.

My doctor slides a corrective lens in front of my flawed left eye.

He asks me which is clearer.

One?

Then he slides a different lens in front of my eye. It clicks into place.

Or two?

When I hesitate—ghosts now overwhelm my field of vision and I am afraid, but the tears will not come—my doctor tries again, his voice softer and slower this time. He is patient with me, sensing a struggle. He sees that I am on the edge of panic. I can no longer differentiate between what is real and what is a ghost image. I can no longer determine what is real and what is metaphor. Perhaps my doctor should ask me a different question.

How do you best express your emotions?

Through which lens? There is life and there is art.

Which is sharper?

One?

Two?

I tell him to do it again.

On April 26, 1937, during the Spanish Civil War, the Basque city of Gernika was bombed by German and Italian aircraft as a show of support for the military revolt led by Francisco Franco against the Republican government. During the three-hour attack, the small town of Gernika was leveled to the ground by incendiary bombs. Internationally condemned as one of the first aerial attacks against innocent civilians, the event inspired Pablo Picasso to paint *Guernica*. Joseba Elosegui, a survivor of the bombing, recalls his experience when he helped a distraught woman whose home had just been destroyed by the sudden assault on their small town.

I ran into a woman covered with dust and with dingy hair who couldn't say anything but, "My son, my son." She dragged me to a pile of ruins that had been her house. I started to work furiously to take away the stones and heavy beams. I scratched my nails until I broke them. Bombs were falling but I didn't pay any attention to them. I only felt the presence of that woman behind me. She would not let me rest. Then I found the child. He wasn't more than three years old. I touched his clothes. My hands came back covered in blood. It was still hot. Finally I removed the body. It was broken and lifeless. I raised him toward the mother. For many years I have been seeing that woman's eyes. She took her

son and emitted a horrifying shriek. Then she disappeared among the ruins, carrying the dead boy.

In Picasso's *Guernica*, there is the unmistakable agony of a mother holding her dead child. The weeping woman raises her head to heaven in bitter accusation. God—grown indifferent to human sin and suffering—recalls his promise. He will never again drown the earth with his tears. He will never again unleash the floodgates of heaven to destroy every living thing with anger, sorrow, and vengeance. The woman collapses on the ground with no one to weep with her in the darkness. In the chaos of broken bodies and burning buildings, in the disorienting smoke that blinds her vision, the woman's ghost sightings are coming at her so quickly and so intensely now—all those ill-defined borders between life and death—that they will not let her rest. She desperately wrings her stinging eyes until they are painfully twisted, but her tears refuse to fall. If those tears were to fall—the tears of the weeping woman—they would drown every living thing on earth. When the mother sees that the eyes of her dead child are without light, she can only hold her son in her arms and emit a horrifying shriek. Then she disappears among the ruins, carrying the dead boy.

My mother did not cry when her brother accidentally drowned. She filled the basins of sinks with stagnant pools of water that originated from some deep well, a dark place where her brother still gasped for air in the underworld. Then she wailed and wept over the things that did not matter to her soul, and—in an attempt to control her grief with the turn of a lever—washed her hands until the skin on her fingers fell away in shreds. My mother sobbed while scrubbing—

with dish soap and scalding water—the coins she brought home from the gas station after paying to fill her tank, and then carefully laid them out on paper towels to dry. She wept inconsolably if I placed a toy that she considered unclean around her vinyl placemat on the dining room table, and so my mother rarely touched objects directly; most of the time she placed a paper towel—cold and damp from her nervousness—between her hand and the back of a chair or the dining room table. Other than in the photographs of her holding me as a tightly swaddled newborn, I do not recall that my mother ever touched me, even with a paper towel. She often wailed and wept if someone greeted her with an embrace and, once—during an encounter with my grandmother—emitted a series of horrifying screams before disappearing into the bathroom to wash her hands.

When my quiet aunt—who saw things that no one else could see—walked from her mental institution into a river, she never returned. My mother did not cry when her sister drowned. Instead, she doubled her efforts to remove all that death from her hands, scrubbing farther and farther up each arm until she reached the bony bend of her elbow. Mineral deposits from our hard well water—all those calcium and magnesium flakes—appeared like newly fallen snow around the perimeter of our sinks. The plumbing of our house clogged with so much soap scum—so many tears festering in the bottom of basins—that sometimes my father had to call a professional to clean out the pipes so that our water could properly drain.

All those displaced tears, though—the ones that my mother cried when she faced overwhelming tasks, such as assembling my school lunches, retrieving a dish towel that had fallen on the floor, or rescheduling an appointment—were not the authentic tears that richly nourish the soul. Consequently, as my poor mother grew older, the challenges of her life became insurmountable. She remained in the bathroom when her mother was near death and then later refused to attend her funeral. Many years later, after I returned from Spain and my father was

near death, my mother again disappeared into the bathroom to wash her hands. Even though I sat at my father's bedside each week and begged my mother to visit him, I was unable to influence her behavior. My mother only left the house to visit her husband twice during the last six months of his life, despite having been married to him for over fifty years. Then, when my father finally died, she refused to attend his burial. Instead, she spent the day washing her hands.

When Picasso completed *Guernica* in 1937, the artist had a private showing of the painting for more than a dozen friends and artists in his Paris studio. While the group stood in reverence before the black-and-white mural, Picasso repeatedly approached *Guernica*, and—with a flair for the dramatic—removed from the painting small pieces of red paper shaped like drops of blood falling from the eyes of his anguished characters, including the weeping woman. While it is unclear why Picasso performed this theater, he may have been trying to illustrate the fickleness of human emotion. Perhaps the artist understood that humans are sometimes limited in their capacity to express emotion, especially in moments of great crisis, and certainly during war. Whatever the artist's motivation, Picasso continued to remove the teardrops—each at a time and place of his choosing—until only one remained under the eye of the infant that was cradled in the arms of his mother, the weeping woman. When the artist removed the last tear from *Guernica*—that red drop of blood beneath the eye of the dead child—the audience burst into applause. Spanish writer José Bergamín later asked Picasso if he thought the red paper tears should be placed permanently on the black-and-white *Guernica*. Picasso suggested that they instead save one of the teardrops and place it in a small box. Once a week they would take the box to the World's Fair Exposition in Paris where the painting was slated for display in the Spanish Pavilion. Picasso and Bergamín would then temporarily place that single drop of blood

below the eye of the bull, staring with cold disregard beyond the weeping woman and her dead child.

My father was that rare *AB negative* type, and so the American Red Cross called him every few months to request a blood donation. He did this with pride and a sense of urgency, rolling up the sleeves of his plaid flannel shirts to locate a vein in his arm the way he would set to work as an electrician, wiring a house for electricity. Perhaps he remembered as a small child the endless streams of wounded World War II soldiers requiring transfusions to restore the light in their eyes. Perhaps he believed giving blood was a civic duty. Whatever the motivation, when my father gave blood to people in need—those suffering from car accidents, gunshot wounds, botched surgical procedures, or other circumstances when it was no longer possible to contain the body within its boundaries, he did this without expectation of receiving anything in return.

When my father came home from donating blood, he always wore a bandage on his arm and a round white sticker on his shirt that contained a small red teardrop. The sticker often said something like, “Giving blood saves lives” or “Proud to be a blood donor.” Sometimes my father would give me his blood donation sticker and I would press it against my chest. Even though these stickers never stayed on my clothes for very long—eventually curling and falling to the floor while I played around the house—they were important to me as a child. They helped me believe that my father actually cared about people.

Years later when I was still living at home, my father’s mother suffered a series of strokes, sudden blood clots that abruptly restricted the flow of oxygen and nutrients leading to her brain. My grandmother’s circulation was eventually so severely impaired that she was bedridden during the last few months of her life and eventually died of gangrene. I only know this—not from visiting her at her bedside like most families do when one of their loved ones is

near death—but from a series of answering machine messages that the long-term care facility left for my father.

Every week they called him with a short update of my grandmother's condition, but my parents would never answer the phone. My father would listen disinterestedly to the messages at the dining room table while he straightened his knife and fork or took a sip of water from his glass and swished it around in his mouth to dislodge food stuck in his teeth—but he never returned the phone calls from the nursing home. When each answering machine message ended, he would toss his head back and swallow—one at a time—the line of pills that he had carefully laid out on his napkin.

Because my parents had no interest in friends and had estranged themselves from our family, when the phone did ring at our house, the individual who was trying to reach them was usually only a telemarketer selling an extended warranty, a dental office receptionist, an automobile repair shop, or someone requesting a blood donation. My parents never picked up the phone when it was ringing, even when they were in the same room. Instead, they would wait for the answering machine to record each disembodied voice, including my own as a grown child when I lived miles from home. Then later, at a time and place of their choosing, they would return the phone call. This usually happened the next morning in the comfort of their easy chairs, but sometimes—in the case of my dying grandmother—never, and so the phone calls from the long-term care facility grew more and more urgent, each confused voice begging my father to visit his mother before she died. Eventually, the nursing home left one final message regarding the condition of my grandmother, and—a few days later—my father attended her funeral.

A few months after viewing Pablo Picasso's *Guernica* in Spain, my father died. He lingered in the ghost realm—that blurry boundary between the living and the dead—for an unusually long time. His hospice worker, drawing from her experience with hundreds of deaths, had only seen this ability a few times in her career. Despite having never known my father, she declared with confidence, “He has unresolved issues and is unable to let go.”

Eventually, though—nearly two months later—the hospice worker called to tell me that my father would most likely pass away that evening. I did not leave my phone on my nightstand before going to bed. Instead, I placed it in another room of the house—on *silent* mode—with a dangerously low battery level. I also did not charge my phone, knowing the last remaining bar of life would drain away before morning. In my bedroom, I replaced the phone at my bedside with a bottle of pain medication and braced myself for the sightings. They came to me in the bright lights of cars that passed on the road in front of my house. *Why are you not going to see him?* The headlights shone through the trees swaying back and forth in the wind, scanning—like my optometrist's beam of light to identify disease—the wall of my bedroom, searching for a sign—any sign, however infinitesimal—of compassion. When I could no longer see straight, I closed my curtains—or was it the window to my soul?—and slipped under the cold sheets of my bed. *Whose bed was this really? Was it the thin mattress and iron frame of my dying father or was it my own deathbed?*

The sightings came at me so quickly then—all those ill-defined borders between life and death—that I could no longer regulate their flow. I could not possibly feel anything more and so I closed my eyes and slept through five voicemail messages from the hospice worker. Early the next morning—while my nervous system fired off distress signals and my eyes flooded with fake

tears—I listened to the first message informing me that my father had died. Each message thereafter—from that same disembodied voice—grew increasingly more demanding.

Why are you not picking up the phone?

My father died alone. He died on July 17, 2019—the same fateful day when General Francisco Franco led a military coup d'état that unleashed the Spanish Civil War in 1936—and so a smaller war of great pain and suffering was also unleashed within me. This strange day—the day of my father's death—was somehow in another time and place from the rest of my life, the beginning of an endless flow of blood and tears in one country, and then—inexplicably—the end of my own ability to mourn.

Sometimes I am able to convince myself that my parents felt too much love. Sometimes I really do believe that each one of their sensitive nervous systems was so overwhelmed with love that they simply could not function in a way that most people are able to care for others by attending the bedsides of the dying and mourning them at funerals. Perhaps my parents suffered from the same affliction that I also endure, relentless ghost sightings until they were so exhausted that all they could do was close the curtains and cover their eyes with something warm and soothing—anything that was close at hand, even a damp and dirty dish towel fallen on the floor—before slipping silently into bed. Sometimes I am able to convince myself that I also feel too much love. Sometimes I am certain that I feel nothing at all. Which is it then?

Do I feel too much or not enough? Which lens is clearer?

My remaining tears are safely preserved in a small box of sacred relics, a reliquary. I place these relics—the real tears that I have hidden—below the eyes of the characters in Pablo

Picasso's *Guernica*. I place one tear beneath the lidless eyes of the bull—the Spanish state—that is condemned to stare endlessly at death from this single point in history. The bull turns away from the radiance of a single light bulb—the eye of God—that dangles from the dark ceiling of the painting. The bull—turned away from God in shame—does not mourn with the weeping woman even though his mouth is close to her mouth, and they share the same breath. Both the woman and the bull will die—as do all humans and nations in the course of history—and so neither will be able to fully express the vastness of their emotions in time and space. *Guernica*, then—with its enormous canvas stretched like a burial cloth across its thin pine frame—is a shallow coffin for paupers; I am the poorest of them all, moving my tears wherever and whenever I please in the dark places of the painting. I press them against the cold faces of the dying, the weeping mother and her child with the light gone out from behind his eyes, but my tears seem to dry up wherever I place them. They curl and fall to the ground like torn pieces of paper. The wind blows them away.

When I returned from viewing *Guernica* in Spain—the year when my father died and the edges of everything blurred—I struggled to answer basic questions that my optometrist asked me during his evaluation of my visual acuity. I was even uncertain how to answer my own questions about life and art. *How do you best express your emotions? Through which lens? Which is sharper?* I could say that I developed double vision. I could say that my body stopped producing normal tears, that my physical ability to express sadness was a gift of my youth and something that I never should have taken for granted. I could even say that the black-and-white images I saw during my exam were not the shivering characters that swayed back and forth on the eye chart, but the dying souls in *Guernica*. While these experiences may seem merely coincidental or

the product of a traumatized psyche, when my doctor evaluates me now—years later in that same small dark room with so many complex machines to accurately assess how I view the world—when my eye doctor asks me again through which lens I see more clearly—*one or two?—life or art?*—I can finally give him an answer.

I did not cry when my father died. I went to the grocery store and purchased my tears, the ones with a built-in plastic applicator and extra protection for the most severe cases. The milky white solution—composed primarily of mineral oil with trace amounts of hydrochloric and boric acids added to balance pH levels and prevent infection—is manufactured in a sterile environment, poured into a 15-milliliter bottle, and packaged in a small cardboard box. The morning of my father's death, though, these ingredients and the method in which they were assembled did not matter to me. I only wanted relief. The morning of my father's death—at a time and place of my choosing, which happened to be behind the closed door of my bathroom—I carefully removed my eyeglasses. Then I took a long hard look at myself in the mirror, as I have done every morning since fleeing Spain, and wrung my dry eyes until they were so painfully twisted, I could not see straight. The tears would not fall—the ones that would drown every living thing on earth—and so I raised my head to heaven. Then I gently squeezed the plastic bottle of emollient and carefully placed a single tear—a single drop of ice-cold ecstasy—on the bone-dry surface of each of my eyes. In that fleeting moment—the millisecond between stimulus and response—I told myself that there was nothing more that I could do—but blink. Then I waited for the milky white solution—the swirling ghost of my father—to fade from my field of vision.

Bibliography

- “Aberration.” Encyclopedia Britannica. <https://www.britannica.com/technology/aberration>. Accessed 19 January, 2022.
- “Dry Eyes.” Mayo Clinic. 2011. <https://www.mayoclinic.org/diseases-conditions/dry-eyes/symptoms-causes/syc-20371863>. Accessed 26 December, 2021.
- Farwell, Richard. “8 Tools Used by Optometrists for Eye Testing.” Depisteo. 6 April 2018. <https://depisteo.com/blog/tools-used-by-optometrist>. Accessed 25 October 2021.
- Galor, Anat et al. “Dry Eye Symptoms Align More Closely to Non-Ocular Conditions Than to Tear Film Parameters.” National Library of Medicine. *The British Journal of Ophthalmology*. 2015. <https://pubmed.ncbi.nlm.nih.gov/25710726>. Accessed 26 December 2021.
- Gamm, David M. and Albert, Daniel M. "Double Vision." Encyclopedia Britannica. <https://www.britannica.com/science/double-vision-physiology>. Accessed 19 January, 2022.
- “Guernica: Picasso’s Artistic Process.” Treasures of the World. PBS and the Corporation for Public Broadcasting. 1999. https://www.pbs.org/treasuresoftheworld/guernica/glevel_1/2_process.html. Accessed 12 February, 2022.
- “History of Modern Spiritualism.” British Broadcasting Company. 2009. <https://www.bbc.co.uk/religion/religions/spiritualism/history/history.shtml>. Accessed 17 January 2022.
- Irujo, Xabier. *The Bombing of Gernika*. Ekin. Buenos Aires, Argentina, 2021. Print.
- Martin, Russell. *Picasso’s War: The Destruction of Guernica, and the Masterpiece That Changed the World*. Dutton, 2002. Print.
- Mukamal, Reena. “Facts About Tears.” American Academy of Ophthalmology. 21 December 2016. <https://www.aao.org/eye-health/tips-prevention/facts-about-tears>. Accessed 19 January 2022.
- Picasso, Pablo. *Guernica*. 1937, Museo Nacional Centro de Arte Reina Sofía, Madrid.
- “Rethinking Guernica.” Museo Nacional Centro de Arte Reina Sofía. 2021. <https://guernica.museoreinasofia.es/en#bombardeo>. Accessed 11 July, 2021.

Smallwood, William L. *The Day Guernica was Bombed: A Story Told by Witnesses and Survivors*. Gernikako Bakearen Museoa Fundazioa. Gernika-Lumoko Udala, 2012. Print.

"Spanish Civil War." Encyclopedia Britannica. <https://www.britannica.com/event/Spanish-Civil-War>. Accessed 24 December, 2021.