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I. Colour in Interdisciplinary Context | Essay

Active Colour: An autoethnographic study of how I approach(ed) colour, language, and their intersection

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Abstract

It was a sunny afternoon in the winter of 2019. Light bounced around the room. We were a few friends painting with watercolour. Bluegrass music played in the background and we snacked on orange slices and sipped red wine. Someone must have mentioned the colour terminology employed in the environment—blue, orange, red—and this motivated a colour conversation that continues to this day.

This is an autoethnographic study, a diary of sorts, of an evolving understanding within my own social spheres and systemic social contexts of (what came to be) active colour. Active colour—both a natural and a constituted entity, continually developing on macro and micro scales through communication, culture, and chance—is explored by weaving together various times and texts. The variegated discussions of physics & linguistics and crossword puzzles & book-club books have become a reflection on the murkiness and unknowability of privilege and power, of contrast and comparability, of life and harmony, and of language and colour.

Developing an understanding of active colour has meant attending to my positionality and allowing myself to be vulnerable and uncomfortable. I aim neither to uncover truths about colour and language, as full reflexivity resists such certainty, nor laud my own journey. Rather, I hope to convey the potentiality of thinking through unknowns, asking big questions, considering others' contributions, and reflecting on why we know what we know and what this knowledge does.

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when morning encroaches, arrives, and unfolds,
when colors commence and black becomes gold,

when shutters are opened and sight is regained,
when shadows are swiftly vanishing stains,

when darks corners yield to bright vibrant rays,
when night turns to dawn, then dawn turns to day...

(Piotti, "when morning encroaches")

Introduction

When morning encroaches, and if I am awake enough to enjoy it, my world bursts into colour. In my bedroom there is the blue bedspread, yellow walls, and the green or red or brown of sugar maples outside the window, marking the passing of seasons. As light finds its way to me, colours commence.

One morning in late 2020, there were red and yellow leaves falling from the maple trees. I nudged my partner out of his slumber to tell him it was morning. I whispered to him how colourful it was, naming the hues that had arrived with the sunlight. I remember liking the blues the most—the bedspread, the early sky, the decorative porcelain bowl on the bedside table—bold and beautiful. He turned towards me, his eyes opening for barely a moment, long enough for me to see their blue, too.

I had not always liked this colour, but it had grown on me. There was the deep blue of a lake in summer and the icy blue of an open sky in winter. It was the bluegrass music my partner would pluck on the guitar and the R&B we would boom when we wanted to dance. On that morning, it was homemade blueberry jam that would be smothered on crunchy toast. In my primary language, this diverse landscape of experiences has been connected through a single colour term. I made a second nudge into the blue bedspread beside me. I iterated a thought aloud: Does word create colour?

I felt it lacked the lustre imagined.

He was awake enough to mumble that light created colour.

Wherever I have looked, whoever I have asked, colour has entreated questions. Yet, the three that keep returning—*What do I know about colour? Where has that knowledge come from? What does that knowledge do?*—never seem to be fully answered. As I further explore colour in this essay, I find it to be both as predetermined & narrow and

as subjective & fluid as language can be. How similar language and colour are and how bound they are to one another! As one reviewer pointed out, it seems that the interaction of (linguistic) expression and (sensory) perception is the codification of (active) colour.

Active colour—both a natural and a constituted entity, continually developing on macro and micro scales through communication, culture, and chance—is at the core of this essay. This said, it has taken some time to arrive at the phrase. This paper is an evolving understanding of (what came to be) active colour, within my own social spheres and systemic social contexts. Divided into seven sections, I chronologically trace my understanding of the intersection of language and colour through myriad anecdotes, conversations, and memories. I devote long passages to the people in my life because they are, ultimately, a part of my active colour. Thus, this is a socially constructed autoethnographic study of how I approach(ed) colour, language, and their intersection. As I link established literature to my own narrated experiences,[1] I also pull from personal sources—like friends and family—who provided their perspectives.

Section 1 describes a colour conversation with three friends as we sipped red wine and painted. This began my journey into colour. Almost a year later, as I stared at my painting from that day, I reached out to my material scientist friend to explain the physics of colour and the Uncertainty Principle. What he said reminded me of #TheDress, a photo that took over my social media in 2015 and played tricks on my eyes and brain. Section 2 follows a late-night phone call with my mom—a few weeks later—about colour, her crossword puzzles, and the blue jays that visited her garden. We were overheard by my linguist friend, because I was still at the office, and she added her own understandings, commenting on the infinite potential of both colour and language. Section 3 brings my rugby teammate into the colour conversation. She has a background in biology, so after hearing my current thoughts on the indiscernibility of both colour and language, she explained the physical architecture of colour and language in

[1] Nicholas Holt, "Beyond Technical Reflection: Demonstrating the Modification of Teaching Behaviors Using Three Levels of Reflection," *Avante* 7, no. 2 (2001): 66-76; Andrew C. Sparkes, "The Fatal Flaw: A Narrative of the Fragile Body-self," *Qualitative Inquiry* 2, no. 4 (December 1996): 463-494.

our brains. Listening to her, I could not help but return to childhood memories of my dad pondering whether he and I shared a colour scape. Had he meant genetically or socially? In Section 4, I describe how these colour conversations as an adult have been informed by my past. There was my lunch buddy in primary school (who was colour-blind); I helped him choose the pink strawberry milk and not the plain skim. And there was my first reading of The Miracle Worker, a play based on Helen Keller's childhood. I return to her writings and find that statements she made 100 years ago about colour have been empirically proven in the last few years.

Building on all these sources, past and current, Section 5 moves beyond my own language, American English, and considers the views of colleagues in my Germanic and Slavic Languages and Literatures Department. After talking with these peers, I came to see the differences in languages as leading to the differences of cultures—a theory called linguistic relativity. In this way, I saw my own colour scape as constrained by the colour terms I used. Section 6 then illustrates how I grappled with this particular understanding of colour and language—drawing from conversations with my artist friend and recommendations made by my Amazon account—and then reconsidered. I began to believe: One's language did not make one different from someone else. Rather, humans were fundamentally the same and colour was not a part of the equation. Finally, in Section 7, I touch on the politically charged aspects of describing colour—recognizing my privilege to have ignored these issues up to this point. I found myself re-examining my view once again. Seeing the world through colour-blind eyes was ignoring the powerful work of colour and language. I end by describing how my classmates, my partner, and scholars have helped me see how working through my understandings of beautiful, dangerous colour becomes more important than defining it.

In this essay, I weave together various times and texts, contexts and conversations. The chronology may seem messy. It is and I think it had to be. Colour is everywhere and always has been. In acknowledging that these individualized experiences come out of distant memories, word-of-mouth interactions, and incomplete inquiries into fields that are not my own, this piece is also a reflection on the incompleteness of knowledge. In this way, I move beyond Pierre Bourdieu's *epistemic*

reflexivity[2] and align myself with a fuller reflexivity—seeing bias everywhere, the symbolic profit of everything, and the truth value of nothing.[3] I take this to mean that beyond describing my relationship with colour, I develop this relationship through the process of writing, by addressing the factors that have influenced and will continue to influence this personal understanding. Fundamentally, this essay is the (re)structuring of my knowledge[4] of colour, and necessarily, of language as well. The journey will be uncomfortable, as I position reflexivity not as reaching for honesty or clarity, but rather allowing for "confounding disruptions—at times even a failure of our language and practices"[5]—aligning with Wanda Pillow's description of the process.

Tracing my constructions and disruptions of (active) colour means attending to my positionality: I am a white, college-educated woman who grew up in a middle-class family in the least racially and ethnically diverse state in my country. These identities and circumstances have afforded me certain belief systems, opportunities, and resources. Furthermore, the sources of information from which I draw my knowledge—my family, friends, and colleagues—emanate from many of these same privileged categories. Within a discussion of colour, I also feel it critical to mention my membership in the LGBTQIA+ community, with its myriad rainbowed flags. My own is a graduation of black, grey, and white, undergirded by a strong purple.

Developing an understanding of active colour has meant attending to my make-up and allowing myself to be vulnerable and uncomfortable. I aim neither to uncover truths about colour and language, as fuller reflexivity resists such certainty, nor laud my own journey. Rather, I hope to convey the potentiality of thinking through

[2] Pierre Bourdieu, *In Other Words: Essays Toward a Reflexive Sociology* (Stanford, CA: Stanford University Press, 1990).

[3] Karl Maton, "Reflexivity, Relationism, & Research: Pierre Bourdieu and the Epistemic Conditions of Social Scientific Knowledge," *Space and Culture* 6, no. 1 (2003): 62.

[4] Maton, "Reflexivity, Relationism, & Research," 62.

[5] Wanda Pillow, "Confession, Catharsis, or Cure? Rethinking the Uses of Reflexivity as Methodological Power in Qualitative Research," *International Journal of Qualitative Studies in Education* 16, no. 2 (2003): 192.

unknowns, asking big questions, considering others' contributions, and reflecting on why we know what we know and what this knowledge does. My quest to learn through activating colour (and language) helps me better understand what active colour does and how to respond productively—in my world and ours.

1. The Material Scientist and My Social Media

On that morning, as my partner slept in, I made toast and smothered it in jam. At the table, my thoughts circled back to my blue-eyed partner, our blue bedspread, and the crisp blue sky—irrevocably connected in my mind. In instances like these, it was crystal clear that colour permeated my life and was something I did not quite understand.

I shifted my gaze to a certain watercolour painting hanging on the kitchen wall. A little less than a year prior, there had been a sunny afternoon with four friends and some watercolour paints. Light had bounced around the room. Bluegrass music—I must have been the DJ—played in the background. We had snacked on orange slices and sipped red wine. Someone must have mentioned the colour terminology employed in this environment—blue, orange, red—and this had motivated a colour conversation that never stopped.

I believe I asked what colour was, and the linguist had laughed, gesturing at our surroundings, asking what colour was not. Our friend the artist had voiced her impression while covering a page with paint. Then, the material scientist added his own understanding. He was a PhD student who worked with active matter—isolating animate, though inanimate, oil droplets as they bounced around their environment. He loved bouncing around his environment as well, traipsing up and down rural Pennsylvania trails. This was where the four of us had first met—on a hike—as he had plucked black trumpet mushrooms from the dark rich earth. We had hiked together after that, learning about dayglo chicken-of-the-woods and pasty white puffballs, and friendship blossomed. On that day, with the painting and the wine, it had been too cold to be mushroom hunting.

The material scientist had picked up the conversation—his paintbrush still in his hands, waving it around as droplets rained down. The colours had soaked into the white canvas. He had thrown out phrases like *light photons* and *receptor cells* and *electrical signals*

but had trailed off when his words had been met with raised eyebrows. He had begun again.

Months later, staring at the painting from that day, I remembered what he had told us: When gases fuse together in the sun, energy is released as packages of waves, each wave somewhere on a spectrum from long and slow to short and fast. The UV rays burn our skin, the infrared waves warm our faces, and visible light brings colour. Light is sundry, the material scientist had informed us, but human eyes are selective. He had then explained that most humans have three distinct types of cells in their eyes for colour perception. These are our cone cells. Although each cone type absorbs a specific wavelength (i.e., a specific light, a specific colour) most effectively, each also takes in a range of the visible light spectrum—meaning most of us see rainbows, rather than just three colours. These cones communicate with our brain and our brain translates this information into colour perception.

The painting conversation had progressed. I had been a little lost, so I had picked up an orange slice and commented on how aptly named it was in English. The material scientist had then told us, that an orange was only perceived as orange. Nothing had colour when you looked close enough. He had continued: The fruit appeared this colour because the peel was of a material that reflected predominantly orangey wavelengths towards our eyes, while other wave types were absorbed into the peel. Collectively, the ones that made it to our eyes were translated to “orange” in our brains. This said, all visible light waves were hundreds of nanometres long. If we had been able to peer at the peel on a smaller scale, smaller even than the size of light, the fruit would have been colourless. He had concluded by explaining how colour, at that point, was not even relevant.

I then remembered the material scientist, energized by his audience’s astonishment, extolling that colour was just the output of a physiological structure in our bodies, perceivable at macro but not micro levels. However, I forgot how our conversation concluded. Thus, I decided to invite the material scientist for dinner, and he came by after a day in his lab. He had been working with lasers that day—another of his research areas—and was well-primed for our conversation.

Over our plates of red beans and yellow rice, he filled the space with words of light and colour. On that day, he told me about lasers. He mentioned that they were about as close as humans can get to isolating light, as their beam is a concentration of similar wavelengths. He explained that isolating light with lasers did not mean locating a single colour. The laser was not monochromatic. There was an uncertainty to colour. He took a bite of rice and told me that to detect a light particle (meaning, a light photon), to say that it is there and that it is some length (meaning, some colour), our eyes must interact with it. Prior to this interaction, photons existed as infinite energies in multiple places and multiple states all at the same time; their wave functions were just probabilities.

I groaned, wondering how something that was physically there existed only as a probability. The material scientist offered the analogy of Schrodinger's Cat: Before the box was opened, the cat was described as both dead and alive. Then, when the box was opened, a choice was forced. When my eyes located a photon of light, a choice was forced as well. The simple act of interacting with a light particle would forever determine it, as my eyes sensed and perceived one discrete energy.

As he finished off his plate of food, he began to describe the Uncertainty Principle. I learned that before interaction, the more accurately the speed of a particle was known, the less could be known about its location—and vice versa. It was only known in totality through interaction and interpretation. In the case of light, this was perception. I remember him shrugging, like this was common knowledge, before he made a move for the green salad. I tried to interpret this for myself: The (physical) existence of colour was only a point of view and the (ocular) perception of colour was only through interaction.

After he left, I sat thinking of a certain photograph that went viral while I was in college. #TheDress had divided my social media following. Humanity could not come to a colour consensus. Many friends had claimed they saw the clothing item as black & blue, but an equal number had argued it as white & gold. Then there had been those who had fallen into neither camp, seeing purple & orange or green & brown. We had been confused; we all had seen the same image differently. Like most fads, we had discussed #TheDress incessantly for a week, maybe two, then had moved on to something else.

I searched for this photograph in literature databases, and I realized that it was not forgotten. In the years since #TheDress had surfaced, empirical research on it had appeared in numerous journals, examining various aspects.[6] Later that week, scrolling through articles, one piqued my interest. It was called: "Colour Vision: Understanding #TheDress."[7] I skimmed, impatient to know whether the image was indeed as magical as my friends and I had once joked.

The article explained that brains were excellent at predicting colour, often adjusting what we saw to accommodate illumination. I repeated that to myself. Brains corrected for illumination. I looked out my office window to some daffodil plants beneath a leafy tree, blooming despite their shady home. Even from there, I would have described them as "lemon coloured," yet my eyes were perceiving reflections from the petals that corresponded to dark brown. Correcting for the shade, I "saw" the flowers as yellow.

[6] The articles discussed the following aspects: manipulated illumination (e.g. Keiji Uchikawa, Takuma Morimoto, and Tomohisa Matsumoto, "Understanding Individual Differences in Color Appearance of '#TheDress' based on the Optimal Color Hypothesis," *Journal of Vision* 17, no. 8[10] [2017]: 1-14), manipulated contextual information (e.g. Domicele Jonauskaite et al., "Stripping #The Dress: The Importance of Contextual Information on Inter-individual Differences in Colour Perception," *Psychological Research* 84, no. 4 [2020]: 851-865), matched colours (e.g. Rosa Lafer-Sousa and Bevil Conway, "#TheDress: A Tool for Understanding How Color Vision Works," *Journal of Vision* 17, no. 10 [2017]: 136), neural responses (e.g. Talia L. Retter et al., "Neural Correlates of Perceptual Color Inferences as Revealed by #TheDress," *Journal of Vision* 20, no. 3 [7] [2020]: 1-20), individuals' stability of perception (e.g. Leila Drissi-Daoudi et al., "How Stable is Perception in #TheDress and #TheShoe?," *Vision Research*, 169 [2020]: 1-5), individuals' colour preferences (e.g. Claudia Feitosa-Santana et al., "Assessment of #TheDress with Traditional Color Vision Tests: Perception Differences are Associated with Blueness," *i-Perception* 9, no. 2 [2018]: 1-17), pupil sizes (e.g. Kavita Vemuri et al., "Do Normal Pupil Diameter Differences in the Population Underlie the Color Selection of #TheDress?," *Journal of the Optical Society of America* 33, no. 3 [2016]: A137-A142), higher cognition (e.g. Lara Schlaffke et al., "The Brain's Dress Code: How The Dress Allows to Decode the Neuronal Pathway of an Optical Illusion," *Cortex* 73 [2015]: 271-275), and sensitivity to contextual cues (e.g. Matteo Toscani, Karl R. Gegenfurtner, and Katja Doerschner, "Differences in Illumination Estimation in #TheDress," *Journal of Vision* 17, no. 1 [40] [2017]: 1-14).

[7] David H. Brainard and Anya C. Hurlbert, "Colour Vision: Understanding #TheDress," *Current Biology* 25, no. 13 (2015): R551-R554.

Yet the researchers explained how #TheDress broke our brains.[8] When I first had seen the image, in all its reposted social media glory, my brain had made a guess as to whether the dress had been well lit or not. It seems that my brain had chosen to see the image under bright lights because I remembered it being blue & black. To quote the article, my brain had evoked "different colour percepts"[9] as compared to many of my social media followers. Neither right nor wrong, just different.

I might have spent days reading about #TheDress, but I found myself stopping when I encountered a certain quote. I marked it in a daffodil-yellow highlighter: "To date, the effects on colour appearance observed with #TheDress remain a peculiarity of that photo, and it is unclear whether the proposed mechanisms underlying #TheDress are general principles that affect the colour appearance of other images."[10] There were unknowns to colour—something researchers still did not completely understand, but something I was growing to acknowledge.

On that afternoon of painting and physics, a conversation on colour had commenced. Although it took me several months to continue it—the nudging of my partner to witness the world of colour, the dinner of yellow rice and red beans, researching #TheDress—I then became devoted to understanding colour, language, and their interaction.

2. My Mom and The Linguist

Preoccupied with colour—how its (meta)physicality played tricks on us—I even found myself haranguing my mom on a Tuesday night a few weeks after stalking #TheDress. I was still at my office and had yet to eat dinner, but I had talked a *blue streak*, my mom informed me. She then laughed at her wordplay; I could picture her sharing this joke with my dad later. She was a physician and spent her days listening to people tell their stories, then later relaying those stories to the ones she loved. On the verge of retiring, she saw a near future of raising goats, writing up her collection of anecdotes, and finishing a lot of crossword puzzles on our family farm.

[8] Brainard and Hurlbert, "Colour Vision," R552.

[9] Brainard and Hurlbert, "Colour Vision," R553.

[10] Christoph Witzel and Matteo Toscani, "How to Make a #TheDress," *Journal of the Optical Society of America* 37, no. 4 (2020): A202.

We had paused in the conversation—both of us ruminating. She broke the silence, asking me why *blue-sky thinking* was overly enthusiastic but *being blue* was the opposite, and then harrumphed when I did not have an answer other than that colour was unclear. I laughed at my wordplay and then added that language was also unclear and asked her to think of her crossword puzzles. If language were straightforward, I argued, then they would just be trivia. The fun of word puzzles can be words' multiplicity of meanings. My mom then remembered one crossword puzzle that had been about colour. She told me about it, and I learned that a *kitty's favourite colour* was *purple*—she held the "r" in the word when explaining the joke. Then there had been another clue about a fortune teller, who was obsessed with *fuchsia*. As she continued to recall other colour riddles, I was thinking about the word colour itself. At least in my first language, American English, there was contrariety inherent in the term. It was an outward often deceptive show (as in, *his story has the colour of truth*). However, it also had an appearance of authenticity (for example, *the statement lent colour to this notion*).[11] Furthermore, while colour could be rainbows and gayety, it could also be exclusion and racial discrimination.

My mom then transitioned to describing the recent visitors to her garden: the boisterous blue jays, the giddy goldfinches, and the tiny ruby-throated hummingbirds. She also seemed preoccupied with colour. I half-listened as I continued my work on a definition for colour and pulled up Urban Dictionary on my office desktop. The website, a crowdsourced online resource with the motto *define your world*, claimed to keep track of the continually developing cultural understandings of words. I typed in "color"—my way to write it. The top hit construed the term as one of the most popular debates in linguistics, namely color vs. colour. This tension seemed appropriate. Further down the page, I found this post: "there's no right or wrong way to spell it… language evolves over time, so deal with it."[12] How

[11] *Merriam-Webster*, s.v. "color," accessed May 1, 2020, https://www.merriam-webster.com/dictionary/color.

[12] C-Mills, "color," *Urban Dictionary* (crowd-sourced dictionary), June 13, 2007. https://www.urbandictionary.com/define.php?term=Color.

fitting, in a way, that the term's definition was peppered with semantic controversy.

My mom yawned. My stomach growled. The office door opened and closed, and my linguist friend settled down at her neighbouring desk, glanced at her watch, and raised an eyebrow. I told my mom goodnight and spun the desk chair to face the linguist. She looked drained—like all graduate students. Only a few weeks away from proposing a dissertation topic, she was overwhelmed by the infinite potential options. She was interested in foreign language learning and teaching, but that was a very large field.

Perhaps to take her mind off all this, I recounted my recent conversations with the material scientist and my mom. The linguist listened and then began to think aloud, toying with the idea of relating the uncertainty of colour to the indescribability of language. She parroted back what I had just told her. The material scientist had said that there were infinite visible light waves, thus infinite potential colours, that bounced off or are absorbed into our objective and subjective world. Yet through interaction (namely: seeing), we determined what was, though others had existed as probabilities.

She continued, adding her own understanding. There were also infinite thoughts, thus infinite potential words, that described our objective and subjective world. Yet, through interaction (like any conversation), we ended up using certain phrases, though others had certainly existed. I could sense that *indefiniteness* was a concept often on her mind. Colour came to the linguist's cheeks as she built up her argument—how we unconsciously selected words (almost like light photons) while our brain connected them to meaning. Slang, jargon, and inside jokes—these were instances she felt we might even have a more conscious choice in our production. We created new repertoires that became shared meanings all the time—all within a single language.

I made a move to return to the Urban Dictionary post and to bring up language evolution, but the linguist had already moved past this. She began to spiral as she grappled with the fact that although there were innumerable possibilities to language, we only ever encountered a fraction of them through chance interaction. She threw out thoughts left and right. They drifted around me, and I tried to make sense of them: We were only ever privy to a subset of all utterances that

could be. Yet, that subset afforded us limitless potential to produce new discourse. Beyond this, the ability was innate—we never learned how to learn a language. It was genetic—language disorders could be inherited. It was also biological, as aspects of language related to certain regions of the brain.

She repeated these three tenets: innate, genetic, biological. She seemed to attribute this line of thought to Noam Chomsky,[13] who had argued that language was like an organ, tantamount to other body parts.[14] I began to picture my face with an arrow pointing towards my mouth, labelled: The Language Organ. It was situated below an arrow at eye level, labelled: The Color Organ. It took me a moment to realize that speech and sight were more than mouths and eyes, respectively, and I blushed at my ableist assumptions. There are those who sign, who communicate through movement. There are those who are blind, who observe through touch.

I noticed the linguist was busy on her computer. Her desktop monitor had a blue and grey banner over a white page with black text. She had pulled up the syllabus from her course in Second Language Acquisition. She told me to grab a pencil to take notes and then launched into how language was rooted in speculations. We, humans in general, do not (yet) comprehend all that language is and can be. Thus, linguists craft metaphors of language and they call them theories. She informed me that there was Nativism from Chomsky and his followers. Her finger grazed the computer screen to point out this unit in the syllabus. Scrolling through the document, she then named others: Usage-based, Interactionist, Meaning-based, Cognitivist, Socio-cognitivist, Socio-cultural, Sociolinguistic, Psycholinguistic, Dynamic Systems—each describing language differently.

My stomach complained again, and my brain began to as well. I wanted to go home, and I wanted to know more. I requested she tell me which theory was correct and the linguist glanced in my direction. With

[13] Although my friend attributes these conclusions to Chomsky, there are others who share these thoughts. For example Pinker and Bloom (Steven Pinker and Paul Bloom, "Natural Language and Natural Selection," *Behavioral and Brain Sciences* 13, no. 4 [1990]: 707-727).

[14] Noam Chomsky, "Things No Amount of Learning Can Teach: Interview with Noam Chomsky by John Gliedman," *Omni*, no. 6. (14 November 1983); Noam Chomsky, *The Logical Structure of Linguistic Theory* (Chicago, IL: University of Chicago Press, 1975).

my papers scattered, laptop askew, pens everywhere—she seemed to chuckle at my disarray and threw a question back into my chaos. She wanted to know whether I thought there was a single, correct way to think about colour. At that point, I was not sure. Stonewalled, I entreated with my eyes, hoping she would give me an answer.

She (partially) complied by relaying hundreds of years of linguistic theory in a minute or two. Language *might* be an abstract set of rules, genetically endowed and stored in the brain, corresponding to the language we encountered in our environment.[15] Language *might* also be a cognitive ability, like memory and attention and problem-solving, which we learned to use for communication—a systematic way to make meaning of our world, involving categorization and routine and analogy.[16] Then again, language *might* be situationally grounded, whereby we used social, physical, and linguistic contexts as resources for acquiring, retaining, and producing language. In this way, the mutual interaction of our personal and collective understandings of lived experiences mediated our language.[17] It *might* be too, that all these variables were intertwined and interdependent and developed over time.[18]

I thanked the linguist, though I had more questions than answers, and rode my bicycle home. Dusk had turned to dark, and colours had retreated behind windowpanes and pooled under streetlamps. The heavy backpack across my shoulders sat uncomfortably and I made my turns slowly, thinking. Comparable to my developing understanding of colour, language also seemed contingent and complicated.

[15] This is an example of Nativism. See Chomsky, *The Logical Structure of Linguistic Theory*.

[16] This is an example of Usage-Based theory. See Joan Bybee, *Language, Usage and Cognition* (New York, NY: Cambridge University Press, 2010).

[17] This is an example of Socio-cultural theory. See Lev Vygotsky, *Thought and Language*, trans. Eugenia Hanfmann and Gertrude Vakar (Cambridge MA: MIT Press, 1962).

[18] This is an example of Dynamic Systems theory. See Kees de Bot, Wander Lowie, and Marjolijn Verspoor, "A Dynamic Systems Theory Approach to Second Language Acquisition," *Bilingualism: Language and Cognition* 10, no. 1 (2007): 7-21.

3. My Rugby Teammate and My Dad

It was only a week or so before I found myself—once again—talking a blue streak about colour. This time it was with my former rugby teammate, an M.D./PhD candidate. We had started our conversation with her research, and I had squirmed squeamishly as she described dissecting mice and splicing cancer cells. Now she patiently listened to my long-winded, disjointed, evolving understanding of the relationship between colour and language.

She asked if I wanted her opinion. I did; she was one of the smartest people I knew. We had met the first week of college on the rugby pitch but were close friends on and off the field. I had written German fairy tales at her workbench while she pipetted things onto a microscope slide; she had bought celebratory Ben & Jerry's ice cream after my opening night of *Love's Labour's Lost*. Although our interests were quite disparate, we always found common ground—one semester we even enrolled in an Archaeology course together, seeing that as the only field our interests overlapped. Now, we were coming together on colour and language.

On this video call, she told me that colour and language were both just brains and genes. I asked her to clarify. She explained that the language areas of the brain included Brocca's area, Wernicke's area, and the auditory cortex. There were others. The colour centre was in the ventral occipital lobe, though there were multiple regions that activated with colour processing. In short, language and colour were all over the brain. They even overlapped when we were asked to apply colour labels to objects and had to neurologically activate those terms. She traced a finger from her ear towards her low ponytail to demonstrate where that was happening in our heads.

Then she moved onto genes, and I learned that they expressed the physiological ability to think & communicate and sense & process. She stressed the word *ability*—as if signalling that there was more to unpack. She went on to say that although my parents had passed on their genes to me, my version of their DNA strains was just the foundation—the potentiality—of my language and sight.

I smiled at this. While growing up, a favourite question of my dad's had been whether the blue I saw was also the blue he saw. To a child, the possibility that I could be different from my dad had been

outlandish. Naturally, my blue had been the same as his, how could it not have been—he was not an alien. As a teenager, I had yearned to be an individual. Naturally, my blue had been different from his, how could it not have been—I was living in a totally separate world. Blue had been my dad's old high school colour and his political party. He had been fond of blue. Blue had been the colour of my high school rivals and the jeans I had only worn because they were cool. I had not been fond of blue. Listening to my rugby teammate, I returned to this. Had my dad been asking all along if my brain translated those signals from my eyes differently? Or had he been wondering whether my *blue* and all that blue meant to me, was a different entity than his own *blue*? Talking with my rugby teammate, I understood how brains and genes were the nature part of language and colour, but I still wondered about the nurture part. I asked this question.

We were video chatting, so I watched while she bit into an apple. Its red disappeared and was replaced with brilliant white. As she chewed, she informed me that cortical damage from accidents or strokes can cause the inability to perceive and/or use colour information. She remembered reading an article—I later located it[19]—in which researchers had described a patient who had been unaware that he could no longer see colour. My rugby teammate relayed that colour was so ingrained in this man's perception of his environment, that he still had "seen" colour cognitively, even though he couldn't physically. She remembered this patient saying that his spinach was "green," because it had always been.[20] She put the article into her own words. For him, and for us too, colour was a flexible concept—applied even when we were no longer physically able to perceive it. Colour was more than hue and pigment; it took on other meanings, nurtured through experience. She then took a massive bite out of the apple; the white disappeared too.

Before signing off, my rugby teammate mentioned that similar anecdotes could be found in research on tetrachromacy and colour-blindness. She pointed me in the direction of medical research. With my mediocre investigative skills, I learned that tetrachromacy

[19] Sebastian W. von Arx et al., "Anosognosia for Cerebral Achromatopsia: A Longitudinal Case Study," *Neuropsychologia* 48, no. 4 (2010): 970-977.

[20] Von Arx et al., "Anosognosia for Cerebral Achromatopsia," 971.

happened when females carried a standard version of a cone type on one X-chromosome and a mutated version on the other X-chromosome. This meant that they had four types of cones rather than three—perhaps altering perceptual processing of colour,[21] perhaps seeing colours that others could not.[22] Key here was perhaps. I read that in addition to a genetic potential, in order to perceive and express this wider range of colour, "exceptional training and perceptual learning is needed."[23] It seemed that without a community that engendered and supported their divergent categories and classifications, these females would be unable to act on their ability. I moved onto colour-blindness, learning that there were those who were restricted in their colour vision, as genetic mutations could also lead to colour-blindness. Like tetrachromats, colour-blind individuals were often unaware of their condition, as they might "begin to discern 'colours' based on differences in brightness… or learned associated object-colour relationships."[24]

4. My Lunch Buddy and Helen Keller

My recent conversations with friends and family had prompted me to think about an old friend: my primary school lunch buddy. He had worn thick glasses at the time; his eyes had been magnified so that you could see the lightning bolts of yellow that crisscrossed across an aqua iris. He had tritanomaly—the most common form of colour-blindness. He had told me that his mother dressed him for school, and he had not been a fan of art class. He had been nice, so we had sat together at lunch.

While I had brought sandwiches from home, my lunch buddy had received his meals from school. This had been during a time when both local cow farmers and the national campaign *Got Milk?*

[21] Vladimir A. Bochko and Kimberly A. Jameson, "Investigating Potential Human Tetrachromacy in Individuals with Tetrachromat Genotypes Using Multispectral Techniques," *Electronic Imaging* 2018, no. 14 (2018): 1-12.

[22] Gabriele Jordan et al., "The Dimensionality of Color Vision in Carriers of Anomalous Trichromacy," *Journal of Vision* 10, no. 8(12) (2010): 1-19.

[23] Bochko and Jameson, "Investigating Potential Human Tetrachromacy in Individuals with Tetrachromat Genotypes Using Multispectral Techniques," 10.

[24] Meredith H. Remmer et al., "Achromatopsia: A Review," *Current Opinion in Ophthalmology* 26, no. 5 (2015): 336.

had been encouraging students to drink dairy. Thus, our cafeteria had offered my lunch buddy several options: skim, whole, chocolate, and strawberry—all colour coded so that children would not have to read the labels on the small carboard cartons. We had called the last one *pink milk* because the colour of the carton better described the taste than the associated fruit.

Sitting down at the picnic table with his plastic food tray, my lunch buddy would pass me his carton of milk. The action had been inconsequential, I could see it from across the table. However, I would take the drink, tell him *pink*, and pass it back. He had quickly learned the location of each type of milk in the cafeteria refrigerator—pink milk had been on the lower right—and he had rarely made a mistake in his choice. Interestingly, he had called it *pink milk* as well.

Although my lunch buddy would have been unable to identify pink on a colour palette, the term had meant something to him. *Pink* had meant the taste of the milk in the lower right section of the cafeteria refrigerator—and it had to me as well. I had also associated the colour with the smell of roses and the smack of bubble gum. My lunch buddy probably had not.

When I told my mom this story, bursting with childhood awe at my lunch buddy's fantastic skill, she had left the room and returned with a book. I remember devouring *The Miracle Worker* by William Gibson[25], a dramatic work about the relationship between Anne Sullivan and Helen Keller. Keller, a child not much younger than I at the time, was both deaf and blind, but had built herself a visual world. The story had touched me; I had cried—for the first time—for someone I had never known. Over the years I have read Keller's own books, often returning to her beautiful description of colour:

> The colors that glorify my world, the blue of the sky, the green of the fields, may not correspond exactly with those you delight in; but they are nonetheless color to me… I understand how scarlet can differ from crimson because I know that the smell of an orange is not the smell of a grapefruit… When I feel my cheeks hot, I know that I am red. I have talked so much and read so much

[25] William, Gibson, The Miracle Worker (London, UK: Concord Theatricals, 1960).

> about colors that through no will of my own I attach meanings to them, just as all people attach certain meanings to abstract terms like hope, idealism…[26]

Now, thinking about my lunch buddy, I returned to Hellen Keller's words. She discerned colour through interaction and interpretation; her colours were vibrant and real and shared. I, too, felt red when I flushed in the heat.

Curious as to whether others had made this connection as well, I searched literature databases for colour knowledge in people born blind. More than 100 years after Keller wrote this passage, researchers used brain scans to investigate purely visual concepts (like colour) in the congenitally blind.[27] One of the researchers offered this analogy for their findings: Colour for those who are blind is comparable to how those with sight understand words like "ion" and "justice"—things without an external physical reality. We all learned about these through interactions situated in contexts.[28] In this vein, Keller once wrote that "the force of association" made green exuberant, black barren, white exalted and pure, and red shameful or strong.[29] Visual terms could take on non-visual understandings, ones that sighted people held onto as well.[30]

In the process of crafting understandings for colour and language, I found them vacillating between nature and nurture. My rugby

[26] Helen Keller, *The World I Live In and Optimism: A Collection of Essays* (Mineola, NY: Dover Publications, 2012), 44-45.

[27] Ella Striem-Amit et al., "Neural Representation of Visual Concepts in People Born Blind," *Nature Communications* 9, no. 1 (2018): 1-12.

[28] Peter Reuell, "Making Sense of How the Blind 'See' Color," *Harvard Gazette*, February 27, 2019. https://news.harvard.edu/gazette/story/2019/02/making-sense-of-how-the-blind-see-color/.

[29] Keller, *The World I Live In and Optimism*, 45.

[30] For example: Green can be nature and resilience (Vin Nardizzi, "Greener," in *Prismatic Ecology: Ecotheory Beyond Green*, ed. Jeffery Jerome Cohen [Minneapolis, MN: University of Minnesota Press, 2013]), black can be an otherness (Cheryl Harris, "Whiteness as Property," *Harvard Law Review*, 106, no.8 [1993]: 1707-1791), white can be on a pedestal (Daniel Purdy, "The Whiteness of Beauty: Weimar Neo-Classicism and the Sculptural Transcendence of Color," in *Colors 1800/1900/2000: Signs of Ethnic Difference*, ed. Birgit Tautz [Brill Rodopi, 2004]), and red can be blushing and life blood (Gil Anidjar, *Blood: A Critique of Christianity* [New York, NY: Columbia University Press, 2014]).

teammate had explained that they were physically anatomical, located in our brain and coded in our DNA. My lunch buddy had taught me that colour could be separated from ocular perception and that words took on meanings when employed in certain environments. And I had learned from the material scientist and the linguist, that all of this was infinite and uncertain.

5. My German and Russian Colleagues

Although I saw colour, colour terms had also taken on non-visual connotations for me. I thought about this a few days later, as I crossed campus to teach my students (of German) a lesson on holidays and festivals, hoping to navigate the conversation beyond just *Oktoberfest* and *Bier*. Nevertheless, preparing for this stereotypical discussion, I had a vocabulary list in my backpack. On it was *blau*—slang for "inebriated" in many German dialects, but also the standard German term for "blue."

As I walked across the mall considering *blau*, I noted the baby-blue hue of the sky and the navy-blue attire of students.[31] I had learned to use these modifiers to distinguish brightness in the common colour. When my brother had been born, we had dressed him in baby-blue. When we had visited the beach, my parents had commented on the navy-blue ocean. Both blue, but different blues.

My German colleagues called these *dunkelblau* (trans: dark blue) and *hellblau* (trans: light blue), adding different modifiers to their "blue" equivalent, and I had learned to do so in German as well. Meanwhile, my Russian colleagues saw these two blues as distinct colours entirely—literally and figuratively. I had discovered this one day while chatting with a Russian colleague. To help me understand, she had dug in and around her desk, locating a neon *goluboj* sticky note and a bold *sinij* pen. Goluboj and sinij, she had explained, were two colours as distinct to her as the English blue and green. She had told me that there was research on this. As I had jotted down the two colour terms to search later, my Russian colleague had continued to talk about her language. She was also a linguist, interested in metalinguistic awareness and had been the Teaching Assistant of a

[31] To note: One of the "colours" of the Pennsylvania State University is navy blue, and students often wear clothing in this colour.

course of mine. Thus, I had already witnessed how passionate she was in guiding others towards new understandings, especially those concerned with language.

I had made good on my promise to research goluboj and sinij. Unearthing mostly empirical studies on English versus Russian speakers' use of colour terminology, I had noted that many of the articles had offered support for linguistic relativity. This belief purported that since thoughts and memories were rooted in words and as words were dictated by language, one's language (or languages) determined how one experienced and understood the world.[32] The literature had been replete with examples of this extended to colour. I lost track of them all, but one study had stood out.[33]

The researchers had first asked English speakers and Russian speakers to mark the defining line between baby & navy blue and goluboj & sinij, respectively, on a 20-point colour scale. The two groups had had similar boundaries. Key, however, was that when Russian speakers had matched a colour swath to one of two colour swaths located below it, they had sometimes been faster than English speakers. These speedier trials had occurred when the two bottom blues had been close to one another (on the colour-scale) but had fallen into different linguistic categories of sinij and goluboj. Explaining this with linguistic relativity was straightforward: The Russian language, with its two blues, primed Russian participants to act on their ability to discriminate between similar, but categorically different, colours. In this way, language seemed more powerful than perception.

I met my linguist friend for tea after teaching that German lesson. I told her what I had begun to believe: because languages were different, language communities saw and thought differently from one another—each a microcosm of a linguistically-dictated culture.

[32] See Benjamin Lee Whorf, *Language, Thought, and Reality: Selected Writings of Benjamin Lee Whorf*, ed. John B. Carroll (Cambridge, MA: Technology Press of MIT, 1956); Edward Sapir, "The Status of Linguistics as a Science," *Language* 5, no. 4 (1929): 207-214; John J. Gumperz and Stephen C. Levinson, "Rethinking Linguistic Relativity," *Current Anthropology* 32, no. 5 (1991): 613-623.

[33] Jonathan Winawer et al., "Russian Blues Reveal Effects of Language on Color Discrimination," *Proceedings of the National Academy of Sciences* 104, no. 19 (2007): 7780-7785.

When she mentioned how that sounded like linguistic relativity, I felt as if I had finally hit the mark.

6. The Artist and My Amazon Account

There was still something nagging me, however. It was what my artist friend had said, years ago, while we had painted with watercolour. She had stated that colour was both visual and material, yet also subjective. I was slowly developing an understanding how colour could be considered visually and materially, but I began to ponder if seeing colour terminology as an example of linguistic relativity actually got at this subjectivity. I snuggled on the couch with a cat, thinking about this, and I realized that cogitating was not enough. I reached out to my artist friend in a text message, asking her what she had meant by *subjectivity*.

It was late, but she was a night owl, often playing video games until the early morning. I knew she would drop what she was doing to answer though. Always eager to share her thoughts, she was a self-proclaimed humanist whose research was at the intersection of art, digital humanities, and social justice work. I loved spending time with her because our conversations were so deep and colourful and eye-opening; I saw the world differently because of her.

Her reply came quickly. Black text in a grey speech bubble, she wrote: "Tied to the Expressionist tradition, colours don't MEAN something (i.e., blue circle = sadness), but instead evoke feeling." I rested with this as three dark dots on my phone screen foreshadowed her follow-up. She then mentioned Johannes Itten, whose colour theory was "pretty trippy." I snuggled deeper. The cat stirred. My artist friend continued: "And then there's Josef Albers, he asks what affective qualities colors have in relation to each other and the viewer."[34] Following our conversation, I located copies of Itten's and Albers' works in the library database; their titles provided a promising avenue to better understand colour (i.e., *The Art of Color* and *Interaction of Color*, respectively).

A week or so later, when the interlibrary loan copies made it to rural Pennsylvania, I was once again on the couch with the cat. I absorbed myself in word, form, and hue, isolating my favourite

[34] Hannah Matangos, Personal Communication: Text Message, February 6, 2021.

quote from each author. I took this from Itten: "Each individual color is a universe in itself"[35] and this from Albers: "If one says 'Red' (the name of a color) and there are 50 people listening, it can be expected that there will be 50 reds in their minds."[36] To these theorists, colour was relational, unique to each of us, and multidimensional, both independent of and interdependent on language. Thus, I saw their version of colour only tangential to linguistic relativity.

The cat reached two front paws towards my knees before standing and jumping lightly to the floor. I stretched too, then returned to linking together all that I had come to understand about colour. As I penned even more ideas onto even more pieces of paper, some of those notes spilled over to the floor. I saw a term the linguist had shared with me: idiolect—an individual's set of linguistic patterns. I constructed a parallel term for colour: idiosight—one's unique colour scape. In seeing colour this way, I could say that we are all different.

Patting the couch beside me, I tried to coax the cat back up. Instead, she batted around the fragments of my work. "Keller" flew under a chair and "idiosight" got wedged beneath a rug corner. The cat's actions indicated that she needed playthings beyond paper scraps. Pausing my scribbling, I moved to purchase real cat toys online. Yet, while logging into my Amazon account, the book *The Language Hoax* by John McWhorter popped up as a recommendation based on my previous searches and purchases. I borrowed the book from the library instead.

It was another week before I was caught up in McWhorter's dismissal of linguistic relativity and was (once again) prompted to revisit my understandings of colour and language. My impulse to see colour through a linguistically relative lens had been a perilous quest[37]—the author called this endeavour dangerous, icky, and disrespectful.[38] Our communities and our cultures became our

[35] Johannes Itten, *The Art of Color: The Subjective Experience and Objective Rationale of Color,* trans. Ernst Van Haagen (New York, NY: Reinhold Publishing Corporation, 1961), 117.

[36] Joseph Albers, *Interaction of Color* (New Haven, CT: Yale University Press, 1963), 13.

[37] John H. McWhorter, *The Language Hoax: Why the World Looks the Same in any Language* (New York, NY: Oxford University Press, 2014), xix.

[38] McWhorter, *The Language Hoax,* xviii, 11, 41.

language—not the other way around. In accepting that all language was local and that all language was fluid, holistically, all language was similar. I restructured my thoughts. In all its diversity, all of humanity had language and all had colour. Tracing perceptual and cultural boundaries only pigeonholed the protean nature of changing cultures, flexible languages, and individual speakers.[39] We were all the same.

When I next cleaned the house, I retrieved Keller but left idiosight under the rug.

7. My Classmates and My Partner

I originally prepared this paper for a seminar course called The Politics of Colour. During one lesson, my classmates and I shared our ideas for a final project. They listened as I described how complicated colour was physically and figuratively—a balance of limited & infinite, nature & nurture, divergence & similarity. I explained that defining colour (with words) was challenging, but that I had assembled a broad array of literature and felt confident in my understanding.

I remember someone asking whether I had considered colour as living, referring to Nina Jablonski's book *Living Color*, and if not, how did this factor into my understanding? We had read and discussed Jablonski earlier in the semester, exploring how biological skin-colour was tied to societal race. For her, skin was living colour, determined by natural selection, evolution, and migration. It could implicate heritage and health and had a fraught history of denoting physical traits, behavioural tendencies, and the social welfare of individuals. Colour was a living narrative of violence and discrimination, which was something I had not explored.

Another classmate inquired whether I thought colour was political, citing our red and blue states, racial protests, and gay rights. Politics, with colour at its core, had divided our country, this classmate argued. There were Republicans vs. Democrats, race-conscious vs. colour-blind individuals, supporters of the LGBTQAI+ community vs. defenders of homophobic, transphobic, biphobic, etc. agendas. When my classmate asked me why these were not in the essay, I did not have an answer.

[39] McWhorter, *The Language Hoax*, 29.

Then someone chided that I had only gone skin-deep, that my understanding of colour was fixed in perceptions of objects and was ignoring interactions with power and history, with systems and institutions. By this point, colour tinted my cheeks as they crimsoned. Writing about all these tenets of colour would be challenging and charged, adding layers of complexity and contingency. I realized I had purposefully left them out.

My confession distressed me. By believing that I had reached a final understanding of colour, especially one that left out the politics of race, gender, and sexuality, I had been upholding the privilege of distance from these social issues.

Many months later, I was still in the process of addressing this privilege and witnessing my own circles widen in an effort to expand their understandings of colour and language. The material scientist and my partner had started a book club, reading about racial injustice. The artist and I had joined a working group to diversify German pedagogical materials. My mom and dad had hung a flag with "love is love" in their front yard. My social media pages had exploded with posts from people of colour and their allies calling out: "Black Lives Matter" and "Stop Asian Hate" and "Black is Beautiful."

As I listened to the people in my life, watched the world around me, and reflected on all this, colour became a powerful living entity that grew and adapted, settled down and saturated, travelled and transfused—ultimately a force both too dangerous and too beautiful to turn a blind eye to. There had been various iterations of colour for me; most recently, *we are all different* and then *we are all the same*. I had disregarded the former; it had been tainted with *separate but equal*.[40] And I had come to realize that the latter was colour-blindness, disregarding histories of discrimination and celebrations of diversity.

Here I was, more than a year after first putting pen to paper, sitting at my kitchen table and thinking about colour and language. Naturally I glanced up at that painting. *What is colour*? I asked myself aloud. The question entangled with my partner's piano playing, which

[40] "Separate but equal" is in reference to a section of the United States' constitutional law (namely: the decision of Plessy v. Ferguson from 1986) which described the legality of state-sponsored segregation--determined by differences in skin-colour.

drifted through the house. He began the piece again, this time adding in his own voice. It complemented the line of music. I contributed a harmony. For a moment there was diversity and consonance. I thought that perhaps colours could also be harmonious—co-existing without destroying other parts; together, a holistic beauty.

Joining my partner in the living room, I saw his book-club book resting on the arm of the couch—splayed out to save his spot, a squat tent on the floral upholstery. He read more than any person I know. The novels were usually fantasy, long texts of unknown worlds and strange beings, which piled up on the bedside table. There were always multiple texts going at once, a J.R. Tolkien classic here and a Brain Sanderson tome there and as he worked in his lab, he listened to others. He had an incredible memory and loved to share the stories he enjoyed. Thus, the move to form a book-club, to better understand race and culture in America, may have been a shift in content but had not been a shift in practice. They had discussed a diverse collection of texts and had just finished their fourth full book. There, on the couch was number five, a white cover with black text that fit comfortably in my palm.

Our teapot whistled on the stove top—urgency in its alarm, ringing in my ear. The singing stopped. The piano stopped. My partner stood to attend to the boiling and to make some tea. I thumbed past the cover and through the paper-thin pages. The words made up a narrative, though many were repeated. Strength was in numbers. Race, bodies, control, power, exclusion—this was the repertoire of colour in my county. When my partner returned with a steaming mug for both of us, I asked him what the book was about. He summarized: It is a father's letters to his son about life, about being a black person, and about what to expect.[41] He had not yet finished the book. I later borrowed the book from him and read Ta-Nehisi Coates' *Between the World and Me* in one sitting, in an armchair until nightfall—a Black world expanding before me.

In Coates' world, Black was a bound entity. Black bodies have suffered, and continue to suffer, under the weight of "the Dream." Yet

[41] I am mindful to the fact, that this summary is my own interpretation of my partner's understanding of Coates' words. Put another away: This is a White woman's rendition of a White man's description of a Black man's experience.

they have also found beauty in their Blackness, as "all the language and mannerisms, all the food and music, all the literature and philosophy, all the common language that they fashioned" were like "diamonds under the weight of the Dream."[42] Naturally, there was tension between fighting the former and celebrating the latter. Coates, whose portion of the American galaxy was "enslaved by a tenacious gravity,"[43] who lived oppressed because of history and heritage,[44] who saw a world divided from him because others were intent in categorizing him with the colour black,[45] who was different from me in so many ways, still spoke my language. He and I both wrote about the murkiness and unknowability[46] of privilege and power, of contrast and comparability, of life and harmony, of language, and of colour.

Words upon words to describe colour—the list kept growing and none seemed just right. I tried again to configure this: colour could be stable and fixed, a property of objects, a gift from our sun. Yet, even within a language, even within a community, even for an individual, the entanglement of colour was constantly manipulated by our brain, co-constructed within dialogue, and adapted through experience. Ultimately, however, colour was terminology—a rainbow condensed and categorized into a handful of unique and communal words we employed to describe such infinite dynamicity.

Colour could be living, alive and kicking, but it had never been mortal. I returned to Jablonski's work on ski-colour. Colour was without a beginning; we were without "confirmed" evidence and could only rely on "comparative" means to reconstruct any origin story for skin-colour.[47] It was without an end; it was "one of the most stable intellectual constructs of all time," an "institutional fact," a "lasting statement of our evolutionary history."[48] In discussing colour as light

[42] Ta-Nehisi Coates, *Between the World and Me* (New York, NY: Spiegel & Grau, 2015), 119.

[43] Coates, *Between the World and Me*, 20.

[44] Coates, *Between the World and Me*, 55.

[45] Coates, *Between the World and Me*, 120.

[46] Coates, *Between the World and Me*, 98.

[47] Nina G. Jablonski, *Living Color: The Biological and Social Meaning of Skin Color* (Berkley, CA: University of California Press, 2012), 32.

[48] Jablonski, *Living Color*, 181.

and energy, there was constancy to the perpetual sun percolating down, ceaselessly chasing and escaping the daily darkness in our world.

Colour could be harmonious, simultaneous variegated euphony, but it could also be privilege and prejudice, exclusion and exoticism, institutionalism and injustice. When I asked myself why it was important to put such (intangible?) understandings of colour into words, I heard the urgency of Coates's reasoning: To better understand the world through my own biases—this was (and is) my responsibility to our world.[49]

Conclusion

It is July 2021. The daffodils have been replaced with marigolds, but they are also lemon-coloured in the shade. I am at my office desk in a video conference, chatting with colleagues from across the country. We are a fellowship cohort charged with creating pedagogical materials that explore the divergences, inequities, and unevenness (as well as the commonalities) that define modernities—my artist friend encouraged me to apply for this position.

One of our readings this summer has been Paul Gilroy's *The Black Atlantic: Modernity and Double Consciousness*. In this critically acclaimed work, Gilroy writes of "unfinished identities"[50] and "cultural mutation and restless (dis)continuity."[51] He employs the image of a ship, a "living, micro-cultural, micro-political system in motion,"[52] as the central organising symbol for his understanding of global Blackness. By doing so, he breaks the "integrity and purity of cultures," which he calls "crude and reductive."[53] Gilroy approaches culture as an "individual self-fashioning and communal liberation,"[54]

[49] Coates, *Between the World and Me*, 99.

[50] Paul Gilroy, *The Black Atlantic: Modernity and Double Consciousness* (Cambridge, MA: Harvard University Press, 1993), 1.

[51] Gilroy, *The Black Atlantic*, 2.

[52] Gilroy, *The Black Atlantic*, 4.

[53] Gilroy, *The Black Atlantic*, 7.

[54] Gilroy, *The Black Atlantic*, 40.

that overflows from the containers of modernity. I now recognise that I have come to think about colour (and language) similarly.

I once asked what colour was.

Over two years later, I still cannot answer this. In all my explorations, the only constant I have found is that I am always tracing another construction of colour down a recondite path. In this way, my understanding of colour is active—dynamic, agentic, evolving, forceful. Right now, my understanding of active colour is that it is (physically) a natural energy entering our bodies, refracted and reflected by objects; (linguistically) an expanding entity that takes on different meanings for different people; and (socially) both a destructive stereotyping mechanism that lashes out, creating inequity; and a marker of communal identification, fostering connection and belonging. My own colour scape—just like my dad's and Helen Keller's—has developed within these interdependent, active systems, among others: economic, educational, environmental, historical, etc. In all these forms, colour hovers between describable and indescribable. As Jablonski writes, "as categories go, [colours] are slippery and arbitrary; but they are no less real in people's minds for being so."[55]

By attending to active colour, I acknowledge the unending process of (re)examining and (re)structuring many of my understandings of my world. Wanting to be reflexive, fully and uncomfortably,[56] in my activation of colour as a natural but no less constituted construct, I am in the long process of interacting with colour, recognizing my warped semantic spaces, teasing apart the illusions, and continually reflecting and absorbing the constant paradoxes that colour and language unearth. This is (my) active colour.

This has been an autoethnographic study of how I approach(ed) colour, language, and their intersection and how I will continue to do so. Although I originally asked, what colour was, I now realize that this was never the correct question. There will always be more to colour. Just the other day, my linguist friend asked me if I had discussed colourful language in this essay and I have yet to interrogate the material scientist

[55] Jablonski, *Living Color*, 146.

[56] fully: Maton, "Reflexivity, Relationism, Research"; uncomfortably: Pillow, "Confession, Catharsis, Cure?"

about white light and black body radiation. My Amazon account has recommended another dozen books and films, and I hope to better understand my own sexuality and gender by dismantling coloured stereotypes and exploring colourful communities. I will get to these.

I have traced what I know about colour and where that knowledge has come from. I have described how it influenced how I think about humanity and nature—for better and for worse. In exposing active colour, I have come to many individualized constituted understandings, because one truth and a single reality are impossible within this domain—just like any comprehensive description of colour or language. This is not to say all truths are valid; but rather, that there is multiplicity, partiality, and complexity in knowledge construction. In this way, active colour has become a journey of developing understandings of others, our world, and how my own knowledge and actions impact them. I feel this as my own responsibility to our world.[57]

Ultimately, active colour—the intersection of colour and language—is the aggregated chance encounters with contexts, constructed across collective and personal experiences. Today, *colour* is my blueberry jam, my partner's piano playing, and Black Lives Matter. Tomorrow, colour may be something else.

Acknowledgments

Whether they know this or not, this has been a collective work of so many in my life, including my graduate school friends (e.g., the material scientist, linguist, and artist), my rugby teammate, my lunch buddy, my German and Russian colleagues, my classmates, my parents, and my partner. Thank you for our discussions. Thank you for your thoughts.

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