CONFLUENCE

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Digital Space and Place

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Preface

Yi-Fu Tuan gently circles space, carefully probing how humans experience the essence and liminality of place through their senses and bodies. At first thought, the idea of digital space and place – a world with no materiality – seems inconsistent with Tuan's embodied, poetic approach. Technology eliminates any visceral experience of the world. Yet we cannot abandon our bodies. No matter where we are in digital space, our bodies remain in real and absolute space – breathing, digesting and working to be alive. This bifurcated experience of space and place is something new. It did not exist in 1977 when Tuan published Space and Place: The Perspective of Experience. What might he have written about digital space and place if he were alive today? What would he have said about how we bridge the digital and physical worlds?

This article imagines how Tuan might have viewed digital space and place in the 21st century. It builds on Tuan's book, Space and Place (1977), emulating his style and language. Ideas are expressed directly, frequently weaving in Tuan's central themes, while using key concepts from other scholars, including Massey, Haraway, Butler, and Harvey, to expand his ideas. Their theories bridge Tuan's concepts of space and place into the physical-digital world we experience today.

Digital Space and Place

Physical space and digital space are conceived as opposites. One has material quality and the other is imagined. One is experienced by the body and the other by the mind. One is visceral and the other cerebral. Yet our minds occupy both physical and digital space. These outside-inside dualisms are too simple – to "be-in-the-world" of physical and digital space is not either-or. It means to experience physical and digital space simultaneously.

Tethered to our bodies, our brains receive sensory stimuli while exploring imagined space. The perceptions of physical and digital space overlay and influence each other. Anticipation or fear in a video game may quicken our heartbeats or make our palms sweaty. Tending a virtual farm and listening to water lapping on a virtual lake may soothe and comfort, relaxing tense muscles. Or the opposite happens. Sitting in the cold and struggling to operate our device with stiff fingers makes us impatient and frustrated in the digital world. Moving through physical space while navigating traffic with a digital map on a mobile device is disorienting. Confused by the unpredictable movement of cars, we lose our sense of direction and lose our way on the map.

Digital technology introduces a new schema on space in which we are neither upright nor prone, neither awake nor asleep. Tuan writes, "Each day we defy gravity and other natural forces to create and sustain an orderly human world; at night we give in to these forces and take leave of the world we have created. The standing posture is assertive, solemn, and aloof. The prone position

is submissive, signifying the acceptance of our biological condition" (Tuan 1977, p. 37). With technology, our experience in physical and digital space offers a third option in which we are both upright and prone, awake and asleep, assertive and submissive. Our bodies lie, sit, stand, or walk, while our minds move through a digital world.

What is this world? How does technology reconfigure space and place? Tuan writes that "if we think of space as that which allows movement, then place is pause; each pause in movement makes it possible for location to be transformed into place" (Tuan 1977, p. 6). Tuan's understanding is complicated by a physical-digital experience in which movement and pause happen together. For example, we see this entanglement of space and place when we shop for a new appliance. We might read online reviews and compare store prices while standing in front of a physical display. The digital information enables us to focus on two or three appliances that become more concrete in our thoughts, making it easier to winnow the choices and select one. Our bodies occupy the place of the store, while our minds move through space connecting with people elsewhere who have experience with the appliances. Likewise, our movement through physical space influences the digital places we visit. When hiking in the woods, I use Gaia, a digital application that tracks my movement and calculates my pace, as well as captures my photos and commentary. Gaia is a digital place to which I return over time and share with family and friends. In the first case, our devices mediate the physical experience of object and place, augmenting how we perceive reality and priming our senses with digital information. In the second case, the physical world mediates the digital experience of place, binding imagination to the real world.

Digital space appears to exist in the ether. It is an imagined, undifferentiated, boundless realm. It is valued for what it is not – held distinct from a physical world limited by resources, gravity and social relations. The digital world offers an escape from the physical. Its spaciousness enables freedom from

material constraints. Tuan links these concepts of spaciousness and freedom, arguing that "Freedom implies space; it means having the power and enough room in which to act….Fundamental is the ability to transcend the present condition, and this transcendence is most simply manifest as the elementary power to move" (Tuan 1977, p. 52). The ease in which we move within digital space and place belies its materiality. The digital world is a construct of binary digits activated through electric currents and inscribed on microchips. We access it through digital devices that we hold in our hands. Linked through fiber optic cables, data banks, cell towers and the electric grid, these devices are tools that expand our perception of the world. As Tuan describes, "Tools and machines enlarge man's sense of space and spaciousness…. A tool or machine enlarges a person's world when he feels it to be a direct extension of his corporeal powers" (Tuan 1977, p. 53). Data infrastructure extends our senses within digital space, but also incorporates our senses within the network. This concept of extension is captured by Haraway's concept of the prosthetic eye: "The "eyes" made available in modern technological sciences shatter any idea of passive vision; these prosthetic devices show us that all eyes, including our own organic ones, are active perceptual systems, building on translations and specific ways of seeing, that is, ways of life" (Haraway 1988, p. 583). For Haraway, our "prosthetic" eyes both influence how we engage in physical place, and extend the sight of technological systems into our private spaces. By engaging in digital space, we invite those systems into our physical places further enmeshing the digital and physical worlds.

We use the internet, social media, media platforms, consumer platforms, video games, augmented reality and other technologies to make our lives easier. We go online to shop, socialize, relax, argue and escape. Some call the digital world a scourge on life, separating us from our cultural traditions (Angelo 2019). Others would describe it as a miracle – a way to connect and engage with the world, even as a person isolated by quadriplegia or autism (Feng et al. 2018). For most, the ubiquity of digi-

tal technology makes it part of our commonsense world. It is something that simply operates in the background, assumed and invisible, until it fails. The vast networks of digital infrastructure that support digital space and place elide comprehension. Tuan describes how "People tend to suppress that which they cannot express. If an experience resists ready communication, a common response among activists ("doers") is to deem it private – even idiosyncratic – and hence unimportant" (Tuan 1977, p. 6). Digital space and place are similarly difficult to articulate. Our lives without technology are unimaginable, outside possibility, and hence without thought. We neglect to question how digital space and place function within our lives, yet digital technology underlays our human experience.

Like the physical world, digital spaces are socially constructed. Transnational corporations design and build hardware and devices that create, maintain and access digital space. Computer engineers and programmers develop applications that we use to engage with and within it. Users populate it with content, personal information and social interrelations. What first appears highly abstract and unreal, evolves as we explore and become familiar with its structure. Digital space becomes digital place inscribed with meaning, as we inhabit and become increasingly familiar with its websites, apps, games and platforms. Tuan describes the shift between space and place in the context of learning a strange part of town: "unknown space stretches ahead of us. In time we know a few landmarks and the routes connecting them. Eventually what was a strange town and unknown space becomes a familiar place. Abstract space, lacking significance other than strangeness, becomes concrete place, filled with meaning" (Tuan 1977, p. 199). The transformation of the strange town is a useful analogy for physical space and place but fails to capture the complexity of our experience in digital space. Unlike physical place, digital devices enable us to occupy multiple digital places at one time. I can watch a video on YouTube, while texting with a friend and shopping for online groceries. Our presence in these digital places changes them in real time as we 'like' con-

tent, add comments and leave data trails. Our experience of digital space and place is dynamic. It constantly shifts as we move through it, encountering others moving through on their own paths.

Digital space can feel perilous but as we slowly build familiarity over time, digital space evolves into tangible place. Butler describes this concept of materialization as performativity, which "must be understood not as a singular or deliberate "act," but, rather, as the reiterative and citational practice by which discourse produces the effects that it names" (Butler 1993, p. xii). Through repetition, digital space materializes in our bodies and minds. We begin to associate digital places with feelings, thoughts, memories and anticipation. We become attached to these now-familiar digital places as our perceptions of them deepen. As Tuan notes, "Attachment of a deep though subconscious sort may come simply with familiarity and ease, with the assurance of nurture and security, with the memory of sounds and smells, of communal activities and homely pleasures accumulated over time" (Tuan 1977, p. 159). Attachment leads us to seek permanence in place, looking for objects and experiences to endure over time – to be a future resource when faced with weakness or change. Tuan argues that "Permanence is an important element in the idea of place. Things and objects endure and are dependable in ways that human beings, with their biological weaknesses and shifting moods, do not endure and are not dependable" (Tuan 1977, p. 140). Permanence of place is elusive in digital space. Harvey provides an alternative argument writing that "The process of place formation is a process of carving out "permanences" from the flow of processes creating spatio-temporality. But the "permanences" – no matter how solid they may seem – are not eternal but always subject to time as "perpetual perishing." They are contingent on processes of creation, sustenance and dissolution" (Harvey 1996, p. 261). Digital place is subject to the same processes that create spatio-temporality. The permanences that we seek within our virtual worlds are ephemeral; they perish with obsolete technology, corporate takeovers, the whims

of big tech and the power button of our devices.

In Space and Place, Tuan argues that place is a static concept. He says, "If we see the world as process, constantly changing, we should not be able to develop any sense of place" (Tuan 1977, p. 179). The intensity and pace of change experienced in digital space and place belie his argument. Massey's dynamic conceptualization of place as created over time and space through interrelated networks of people, places and objects (Massey 2018) better describes digital place. She argues, "If space is rather a simultaneity of stories-so-far, then places are a collection of those stories, articulations within the wider power-geometries of space. Their character will be a product of these intersections within that wider setting, and of what is made of them" (Massey 2005, p. 130). Place, then, is constructed by people over time and shaped by their extended relations to other places and people. When we occupy physical and digital space simultaneously, our experience is compounded by the multiplicity of each. I can sit in my grandmother's house, look at my cousin's photos on Instagram, and listen to a podcast on the future of technology while feeling the ocean breeze and smelling bacon on the stove. Or perhaps I could attend a virtual live concert, chat with friends and order food within the video game Fortnight. Digital places organize and curate our stories-so-far as seamless extensions of our physical experience. The wider power-geometries bridge physical and digital space, enabling us to perceive and experience multiplicity by watching a live performance in a digital place or eating food delivered from a virtual restaurant.

The fluidity of physical and digital place is produced by shifting assemblages of users, devices, infrastructure, code, and corporations in the here and now. To Massey, the "'here' is no more (and no less) than our encounter, and what is made of it. It is, irretrievably, here and now. It won't be the same 'here' when it is no longer now" (Massey 2005, p. 139). As an assemblage of constantly evolving interrelations and objects, the formation of a specific place (the here) can only be defined in the moment (the now) when those interrelations and objects briefly cross paths and create place. Each piece of the assembly is simultaneously linked to other people and places in both the physical and digital worlds, extending networks of social interrelations. To Massey, "the juxtaposition and co-presence" of social interrelations that extend "wider than and go beyond the area being referred to in any particular context as a place" forms the identity of place (Massey, 2018, p. 170). She describes this as a process of becoming: "a source of the production of new trajectories, new stories" (Massey 2018, p. 316).

The unfixed nature of digital place leads to somewhat treacherous emotional footing – the digital assemblage influences our consciousness, produces emotions and sharpens our perceptions. Massey describes the identities of places as "unfixed in part precisely because the social relations out of which they are constructed are themselves by their very nature dynamic and changing. They are also unfixed because of the continual production of further social effects through the very juxtaposition of those social relations" (Massey, p. 169-170). This uncertainty of place can destabilize emotions. In digital space and place, we may feel included or excluded, happy or sad, relaxed or anxious as we navigate unknown territory. This unfamiliarity heightens our senses, actively engaging our perceptions of both physical and digital space.

We live in the shadow of this digital world. We feel its spatial dimensions in our everyday movements – in calling our loved ones, going to the store and eating dinner. In Poetics of Space, Bachelard writes: "Space that has been seized upon by the imagination cannot remain indifferent space subject to the measures and estimates of the surveyor. It has been lived in, not in its positivity, but with all the partiality of the imagination. Particularly, it nearly always exercises an attraction" (1958, p. 19). Once we enter, digital space seizes our imagination and our attention. We are attracted to its prospect – our minds moving forward in time and space. To Tuan, "Space lies open; it suggests the future and invites action" (Tuan 1977, p. 54). It is exemplified by the

Paleolithic hunter who overcomes space when he "drops his hand ax and picks up a bow and arrow… things once beyond his physical reach and mental horizon now form a part of his world" (Tuan, p. 53). Like the hunter, we reach beyond the horizon of physical space through digital experience.

What appears as a limitless virtual world is carefully designed and curated to create a virtual sense of place and support symbolic representations of those with power. When I visit Amazon's app, I see the products I've ordered or viewed, as well as a list of my friends and family to whom I have sent gifts over the years. My page represents both future desires and memories of past celebrations, entwined with Amazon. This happy consumer place obscures the people and businesses who produce and sell the products I buy. It hides the social relations and material resources that make my purchases possible. Tuan writes that "Space is a resource that yields wealth and power when properly exploited. It is a worldwide symbol of prestige. The 'big man' occupies and has access to more space than lesser beings" (Tuan 1977, p. 58). Massey argues that space is constructed by both presence and lack of social relations. As she writes, space is made "too, of the non-meetings-up, the disconnections and the relations not established, the exclusions. All this contributes to the specificity of place" (Massey 2005, p. 130). In the digital divide, some gain from the intensified physical-digital experience, while others are excluded, isolated from both social interrelations and economic opportunity. Others are relegated to providing physical labor necessary to support digital infrastructure and its services. These are the people who fabricate Amazon products, sort packages in warehouses, and mine the lithium that powers personal devices.

The curation of digital space constructs and articulates human experience in both the physical and virtual world. Technology companies collect and analyze data from the physical and digital places that we inhabit to better predict our inclinations and our emotions. They exploit this experiential data to render our lives in computer models which use algorithms to predict when we are most likely purchase a new product, subscribe to a service or go on a trip. When Space and Place was written, this level of curation was impossible. Tuan writes that "Much of human experience is difficult to articulate…and we are far from finding devices that measure satisfactorily the quality of feeling or aesthetic response," and that "a large body of experiential data is consigned to oblivion because we cannot fit the data to concepts that are taken over uncritically from the physical sciences" (Tuan 1977, p. 200-201). With the advent of digital technology, big data and computer algorithms, this is no longer true. Scholars, such as Zuboff (2020), have documented the capacity of technology companies to collect and analyze experiential data to increase sales. However, human experience defies easy simplification and commodification. Human experience is infinitely variable. As Tuan describes, "The scientist postulates the simple human being for the limited purpose of analyzing a specific set of relationships, and this procedure is entirely valid. Danger occurs when the scientist then naively tries to impose his findings on the real world, for he may forget that the simplicity of human beings is an assumption, not a discovery or a necessary conclusion of research" (Tuan 1977, p. 203). The same could be said of the corporate data analyst today. Despite the convolutions of technology companies, there is no singular experience of physical and digital place. We occupy them simultaneously, and uniquely.

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