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### The Varieties of Place-Based Education

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## Abstract

Traditionally, the predominant focus of Place-based educational (PBE) theories and practices has been the natural environment. The focus of this chapter will be on urban and digital environments as incubators of the PBE goals of experiential learning, interdisciplinarity, critical thinking, ethical reflection, and other goals. The framework used to interpret and analyze the various senses of place is based on the notions of the *lifeworld*, *personalistic attitude*, *noesis* and *noema*, all concepts found in Edmund Husserl's *Ideas I* and *II*. Urban and virtual places share the characteristic of being built, which has resonances for the interactivity and engagement the learner has in regards to them. I use Husserl's insights to concretely analyze the function different field sites play in the curriculum of the authors who talk about their experiences with PBE in this book. In particular, I look at the interplay between the learner and natural environments, urban built places, virtual places, and the "space" of an online community discussion forum. Because of the way Husserl describes places as expressions of both *noesis* and *noema*, there is commonality in all of these varieties of places as concrete contexts within which learners understand and solve problems.

## Introduction

Support for place-based education (PBE) as a pedagogical practice can be traced back to John Dewey and his ideas about experiential-based education. He was critical of the traditional classroom setting which sought to convey predetermined content and skills to students who were expected to passively receive it.<sup>1</sup> The walls of a school room can be seen literally, as well as metaphorically, to be shutting out the "real" world for the sake of the artificial learning environment of the classroom. Dewey instead believed that education was not valuable only for drilling the student with content-knowledge, but was crucial to promoting civic engagement and living an ethical life, both of which ask the student to utilize knowledge and skills dynamically, experimentally and judiciously. Dewey believed education should be experiential, promote active learning, and be relevant to real-world problems. These features characterize the goals of

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<sup>1</sup> For example, in *The School and Society*, he writes, "There is very little place in the traditional schoolroom for the child to work. The workshop, the laboratory, the materials, the tools with which the child may construct, create, and actively inquire, and even the requisite space, have been for the most part lacking." (John Dewey, *The School and Society*, Mineola: Dover Books, p. 22.)

those promoting PBE practices even today. Scholars such as David Gruenewald, Gregory A. Smith, and others believe that PBE is key to supporting a kind of learning process that achieves the goals that progressive education seeks. It encourages active learning, cultivates critical and analytical skills as it engages students in real-world problems, and by doing so, promotes civic engagement and participation.

Another feature of PBE that can be traced back to the ideas of Dewey and that has endured in Gruenewald and Smith is their focus on the natural world as the ideal setting for PBE. Mitigating against the artificial setting of the classroom are the bucolic fields and forests of the natural world.<sup>2</sup> This focus on nature has also gone hand in hand with the pressing and current real-world problem of ecological sustainability. Gruenewald, for example, believes that ecological and environmental studies should be central to the practice of PBE.<sup>3</sup> Acknowledging the virtues of using the natural world as a model for place, my chapter is instead focused on the virtues of the urban and virtual environments in promoting and supporting ideal learning outcomes that are attributed to PBE. The common feature that the urban and virtual environments share is that they both are built environments. This feature enables students to have a participatory and interactive relationship to place in a way that is less prominent in natural settings. In “Foundations of Place,” Gruenewald writes:

When we fail to consider places as products of human decisions, we accept their existence as noncontroversial or inevitable, like the falling of rain or the fact of the sunrise. Moreover, when we accept the existence of places as unproblematic places such as the farm, the bank, the landfill, the strip mall, the gated community, and the new car lot we also become complicit in the political processes, however problematic, that stewarded these places into being and that continue to legitimize them. Thus places produce and teach particular ways of thinking about and being in the

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<sup>2</sup> Evens, Russell and Emin seize upon this aspect of Dewey’s thinking in Evans, Russell and Emin Kiliñ. “History of Place-Based Learning in the Social Studies Field,” *Journal of Social Sciences* 14 6 (2013), 264-266.

<sup>3</sup> Gruenewald, David. “The Best of Both Worlds: A Critical Pedagogy of Place,” *Educational Researcher*, 32 4 (May 2003), p. 3.

world. They tell us the way things are, even when they operate pedagogically beneath a conscious level.<sup>4</sup>

For Gruenewald, PBE cultivates in students an awareness of the ethical and civic implications of our environment; that human choices help shape that environment, and as members of their communities, they are able to help shape those environments according to a value system. I believe that urban and virtual environments are able to nurture the dimension of value in ways that the natural environment cannot because they are created environments and are therefore at their very basis built according to human purposes and choices.

My chapter will discuss the contributions of the other authors with a view to finding underlying commonalities. Ostensibly, all of the authors use very different methods and settings in implementing PBE practices to their specific disciplines. Professor Paul King's field site is a construction site; Professors Cheng's, Gwen Cohen-Brown's, Aida Egues' field sites are a virtual game and artworks; Professors Reginald Blake's and Janet Liou-Mark's field site is a virtual atmospheric map; Professor MacDonald's field sites include urban centers and an online community board. These places range from the physical and real to the virtual and pseudo-real to the representational and imaginary, yet they all serve to provide a concrete context in attempting to analyze and resolve real-world problems in an interdisciplinary and collaborative way. I will be using phenomenological concepts to help shed light on how place functions as a concrete context, especially as they are conveyed by Edmund Husserl in his *Ideas*, parts *I* and *II*.<sup>5</sup> What he says is that we do not experience the world in a way that is placeless. We are always *emplaced*. This emplacement comes with certain conditions, especially on the side of the subject, that unify and underlie our experiences of all the varieties of place. Each kind of place comes

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<sup>4</sup> Gruenewald, David. "Foundations of Place: A Multidisciplinary Framework for Place-Conscious Education," *American Educational Research Journal* 40 3 (Autumn 2003), p. 627

<sup>5</sup> Husserl, Edmund, *Ideas: General Introduction to Pure Phenomenology* (*Ideas I*), translated by W.R. Boyce Gibson, New York: Routledge, 1931 and *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy* (*Ideas II*), translated by Richard Rojcewicz and André Schuwer, Dordrecht: Kluwer, 1993.

with its own unique modality of engaging and teaching the learner. But what is common to all these experiences of place, especially as they are created places, are that they are inherently centers of interdisciplinarity, community, and interactivity.

I will begin by reconstructing the concepts that are relevant to my project in Husserl. Later, I will go on to apply those concepts in understanding how place functions as a learning tool in the various pedagogies of the authors of the chapters in this book. I focus on the chapter by King on the DURA project to discuss the ways in which the natural and built environments are similar and different. I also focus on the chapters written by Cohen-Brown, Cheng, and Egues on the one hand, and Blake and Liou-Mark on the other hand to highlight features of digital PBE. I also touch upon the chapter written by MacDonald to discuss the kind of “place” online community discussion boards are. Two important considerations that are revealed in my discussion are the ways in which disciplinary perspectives, as well as other aspects of one’s perspective, bestow meaning to the process of learning. Whether the place is physical or virtual, we are always contributing a perspective that shapes how we see places, and those subjective structures are in play no matter what kind of a place we are experiencing. Husserl has a particular way of understanding this meaning-bestowing process, which I will discuss below. Another important consideration is the ways in which the real or virtual places determine the quality and shape of the experience. I look at how the world encroaches upon the perceiver using a dichotomy that Husserl makes much of – the dichotomy of *noesis* and *noema*. They comprise the unit of experience which synthesizes both the attitudinal/intentional conditions of perception (*noesis*) and the component that reality brings *as it enters into mental life* (*noema*). Because self and world here are two poles inside consciousness, Husserl reveals that meanings and objects/environments correlate and interact in ways that are organic and dynamic.

## **The Life-world, Common Sense, Disciplinary Frameworks, and Interdisciplinarity**

Let me begin the discussion of Husserl's work with his concept of the *life-world*, and the related notion of the *personalistic attitude*. This simply refers to our everyday comportment to our lived world which serves as both the origin and contrast to the attitudes we take when we view that same world through the lens of a specific academic discipline. Husserl believes that all knowledge and learning begin with our immersion in a *life-world* that is dynamic, pragmatic, and filled with the infinite multiplicity that is true of our experiences: physical, cultural, social, political, aesthetic, and countless other attributes. Well before we acquire academic perspectives, we begin the process of learning about the world we live in through a more diffuse and open framework – through our common sense understanding or the *personalistic attitude*. This might be an obvious observation, but this simple fact is often lost in academic discourse when scholars attempt to analyze how one learns. The simple observation Husserl makes is that our common sense engagement with our everyday world is where we cultivate, nurture, and further our understanding of the world around us. This process continues without interruption in more formal settings like college and graduate school, but these are still nonetheless traceable back to our more common accounting and assessments of the world.

This observation obviates the reason why PBE is inherently interdisciplinary. All disciplines grow out of the same source in common sense. Prior to approaching the visual culture of medicine through the disciplinary perspectives of art history, restorative dentistry and nursing as Cheng, Cohen-Brown, and Egues does, they would have shared a common sense world where encounters with visual manifestations of medicine were pervasive, yet only vaguely there.<sup>6</sup> As a

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<sup>6</sup> I acknowledge that there are complexities here that I am not explicitly addressing, such as how culture, gender, ethnicity, and other factors affect “common sense”. It is true that there is a wide variety and differences in what we

child, one might see a painting at a museum by Peter Bruegel, and only take passing note of it. She might also see Holbein, Titian, and other artists in other museums, art books, advertisements, etc. No doubt she has notions and reactions to the images which will later crystallize into knowledge, shaped by the opinions and responses of others around her. At college, she might begin the process of specializing in a field, like art history, that investigates these objects using methods that have been shaped and honed by other specialists through history. But whatever the disciplinary perspective, Husserl believes that it originates from a pre-academic experience of the lived world. The same kind of analysis can be given for the work of Blake and Liou-Mark, who offer their perspectives from mathematics and physics to geophysical phenomena. Before they acquired their specific disciplinary frameworks, they would have seen the same winds and storms, but through the more diffuse framework of common sense, from which they were able to draw from when coming to their disciplinary knowledge and to which they always return to in any analysis of geophysical phenomena or mapping.<sup>7</sup>

Places are concrete contexts which activate interdisciplinary perspectives because they are centers of familiarity and praxis. In Professor King's chapter, we learn that architectural sites call for the input of many areas of expertise in order for the site to be complete, such as Architecture, Civil Engineering, Structural Engineering, Environmental Systems, Computer Engineering, Hospitality Management, Communication Design, Energy Modeling and Building Code Analysis. This is because the places that architects build are places people use to live, work, and in other ways engage in the activities of life. These dwelling places embody multiple functions and uses that anchor many dimensions that experts are called upon to refine and bring

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consider common sense. Yet, I also think we can all agree that there is a pre-academic way in which we learn in the context of our families, communities, and society that form the basis of later academic learning.

<sup>7</sup> For example, see Husserl, *Ideas I*, pp. 6-7. He states that the theoretical attitude comes from the *pre-theoretical* attitude, but all of these attitudes, including the common sense one are constitutive.

up to code. Professor MacDonald too, in her chapter, shows that her PBE approach allows students a basis from which they can collaborate with each other, and with organizations throughout the city, including the Brooklyn Navy Yard, and the CUNY Institute for Sustainable Cities. The tour given by the Brooklyn Navy Yard gives students an immersive and interactive experience that focusses the many interdisciplinary perspectives that can be applied to the places that they visit.

Let us further elaborate what Husserl says about how the *personalistic attitude* in the *life-world* develops its sense of place. In the *personalistic attitude*, I am surrounded by a world that has an open horizon of all actualities and possibilities. I am first and foremost always aware of the immediate, concrete environment, or in other words, presence in the world and my locality in it, where my body and the mind that always accompanies it is point zero from which I relate to all things and people. Up, down, behind, right, left, and all manner of orientation starts from myself as the center of directionality. My sense of space and time, and their pragmatically grounded manifestation of place grows out of this primordial location in the world. I can fix my gaze upon the this and that which surrounds me in the immediate, or I can fix my attention upon a world that surrounds me in all its actualities and possibilities. But wherever I go, the world always emanates out from this singular perspective in the here and now that an embodied self always is. In other words, I am always *emplaced* and this emplacement is universally a fact for me even if as I move through space, the specific location changes.

Location is, however, only a very minimal way to describe this emplacement. Our relationship to the world is, of course, vastly more complex and layered. I do not encounter the world in my life as merely *located* somewhere or in any way absent of the full content of a real world. In fact, to think about such abstractions is a highly theoretical point-of-view that I am able

to convey only after having read Husserl and others. Throughout his works, Husserl points out that the academician with their highly disciplinary and theoretical frameworks often adopt their academic frameworks so thoroughly that they forget that it is not a part of everyday discourse. Students provide frequent reminders that the common sense perspective is more diffuse and both more vague and rich at the same time.

We can have many different layers of perspectives informed by an infinite variety of experiences both real and fictional. Importantly, we also have memory that carries all actualities and possibilities through time and constitutes the full history of the ongoing present, past, and anticipated future. We can also have different modes of engaging that world – through desire, feelings, thoughts, fears, curiosities, experimentation, neutral observations, fantasies, and the list goes on and on. We could never hope to exhaust the endless variety of elements of our experiences with the *life-world*, but nor should we fear it. Husserl’s point is that it is this very variety and multiplicity that are always “there” as part of our common sense experience from which we draw from and to which we return to when we develop a disciplinary perspective. Common sense experience is wide enough and varied enough for every and any scientific and disciplinary perspective. A single person could have many such perspectives that run the gamut from common sense to one or more theoretical attitudes, which reciprocally affect each other. At any given time, she may shift from one perspective to another or use multiple perspectives at once to make her observations and evaluations. This is all possible because first and foremost, we grow as learners starting from our entanglements with the *life-world* in the *personalistic attitude*.

What is also self-evident in what I have just said is the fact that our “world” consists of more than just physical things. Indeed, the sole reason for its varied and rich layers is because

there are many ways in which the world and the objects within it are suffused with meaning in the many ways we associate with places. Whether we see a temple as sacred and awe-inspiring, or as a pile of bricks as relics of a dead past depend on the meanings we give it based on a religious or archeological perspective. Just in this example, what Husserl would find more primordial between the two perspectives is the religious attitude which grounds the meaning of the temple – in the lived world, the religious experience is what gives the temple significance, and it is what the archeologist studies. Indeed, the temple would be just a pile of bricks otherwise. We may furthermore, approach the temple with other disciplinary perspectives. For example, an archeologist might wish to study its architectural features. We can shift our attitude and see it from that perspective as well (some more expertly so than others). Nonetheless, Husserl believes that our default attitude is always to return to the lived experience of places.

A number of scholarly works on PBE points to the importance of the idea that we are always *emplaced*.<sup>8</sup> This emplacement is the basis for their justification for PBE. Place provides a context that is fruitful for learning because it is a familiar, concrete nexus around which we can ask questions and solve problems. William Edelglass and David Gruenewald are two such scholars, and not coincidentally, adopt the phenomenological approach in their analyses of place and PBE. They both point out that PBE provides a concrete, dynamic, and pragmatic context that helps students engage more effectively in learning and keeps students in tuned to real-world problems. They also agree that places are not merely physical environments, but are suffused with cultural and social significance. John Bean, who explores writing as a pedagogical tool in particular, is another scholar in pedagogy that extolls the virtues of PBE in his *Engaging Ideas*. He believes that it is a highly effective way to bridge the gap between the familiar and

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<sup>8</sup> For example, William Edelglass and David Gruenewald talk about this in their respective works Edelglass, William. “Philosophy and Place-based Pedagogies” in *Teaching Philosophy*. Bloomsbury: Bloomsbury Press, 2009: pp. 69-80 and “Foundations of Place”.

unfamiliar, which he thinks is at the root of the way we learn in general.<sup>9</sup> Dwelling in a place gives students a practical and familiar context from which to frame novel problems and solutions.

Husserl helps us to tie these insights together. The reason why PBE is effective is because it allows students to enter into a context that has real life resonances. It provides a familiar starting point from which to explore other more unfamiliar ideas, and this underlying common sense understanding is something everyone shares no matter what their discipline or stage of life. Places also present real-world problems that may have a very immediate and practical impact, which again is something people can relate to in a way that theoretical formulations might not help them to see. But as we see in King's chapter on the DURA project, even physical places embody cultural and social meanings (indeed the very constructions of the structures were created with certain values of ecological sustainability in mind). So places are also centers of interdisciplinary explorations wherein disciplines may intersect, diverge, or parallel each other, but all of the disciplines amplify some feature of the lived experience of place.

In the next section, I will explore different kinds of urban and virtual places, and how they parallel or diverge from our ideas about physical places. I continue to use Husserl's ideas in *Ideas I and II* to provide an interpretive framework. I show that physical urban, virtual, and fictional places share the characteristic that they are concrete contexts that anchor our investigative questions and problems. And because they are built places, they are even likelier to promote critical thinking, collaboration and participation than their natural counterpart. I rely on Husserl's ontological dual structure of *noesis* and *noema* to explain the relationship between self and world(s). I also bring in his understanding of the contributions other people have in our

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<sup>9</sup> Bean, John C., *Engaging Ideas*. San Francisco, Jossey-Bass, 2001, p. 27.

constitution of the world. Understanding the role of others in our community helps us to understand places as inherently communal, and therefore lends themselves to collaboration. The constitutive role others play also helps us to elucidate the kind of world online communities inhabit.

### **What kind of world?**

I use the term ‘world’ deliberately. It has a significance in phenomenology that goes beyond our common usage of the term. The phenomenologist would include in the phenomenal world the conscious and communal conditions that frame the objective world being observed, along with the external existence of that world. For example, the way we might see nature in a nature walk today is conditioned by our cultural, religious, historical, and personal experiences. For a typical urbanite, the natural environment is a reprieve from our technological world, serves as a bucolic contrast to that world and is perceived as largely free from fearful elements like predators. He endows it with a peaceful and romanticized kind of existence. It would be different from how a scientist might engage that same objective space. She might observe that natural environment with a classificatory lens and see that it embodies a logical order. Or if we can imagine how a Native American might have seen their environment in the pre-Columbian era, she might have seen a world animated with spiritual significance and treat certain spaces as sacred and inviolable. Perhaps she might even fear the unknown in it. A logger would have a very different way of engaging that same environment. For a phenomenologist, these attitudinal shifts are not “merely” shifts in language; they are shifts in worldviews – they are world changing. Since we are capable of technologically transforming our world, the latter can be taken quite literally.

For phenomenologists, since humans are inherently rational creatures, they cannot help but be meaning-makers which is manifest even when observing brute facts such as a tree or a building. Even something as simple as encountering a tree in the forest is imbued with meaning – if we recognized it as part of a larger landscape, it serves as a landmark, a *sign* pointing to directionality as a map would. If we did not recognize it, it would signal our being lost either happily or fearfully so. That our current surroundings are populated by trees rather than buildings has its own significance.<sup>10</sup> This example is given by Martin Heidegger in his *Being and Time*. For Heidegger, as well as his teacher Husserl, it would be impossible to see the world without such a meaning-endowing consciousness for we simply cannot take off our consciousness as though it were a pair of glasses. This meaning-endowing way of engaging our world is all the more clear when we engage the built environment since urban and virtual environments are made according to the very meanings that humans use to design them and later to interact with them. This is also the reason why built environments are inherently more communal and interactive. Built environments are made with people and their purposes in mind. One of the significances of natural objects for us, like trees, is that they belong to an order that we did not have a hand in making and therefore commands a certain amount of deference. A door, on the other hand, was made *for us to open*; a sidewalk was made *for us to walk on*, a video game was made *for us to play*. The urban, virtual, and artistic environments, as shown by the authors in this book, have a heightened capacity for nurturing interactivity because of their status as reified worlds.

Let me elaborate upon two key concepts in Husserl's *Ideen I* and *II* that explain how we interact with our world that will be important for this and later discussions. They are *noesis* and

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<sup>10</sup> Martin Heidegger gives this example in Heidegger, Martin. *Being and Time*, translated by John Macquarrie and Edward Robinson, San Francisco: Harper and Row, 1962.

*noema* – these terms express the two poles of the singular experience of the world; the subject-pole and object-pole of any perception.

Husserl believes that at the basis of consciousness is reason, and like a flashlight, it shines rays of light out onto the world. As it shines its light, it endows meaning to the things and the environment it observes as I spoke of earlier. The most fundamental thesis or belief that we endow upon our everyday world is that there is indeed a world there as it appears to be. In *Ideas I and II*, Husserl utilizes a technique he calls the “epoché” in analyzing our common sense and academic engagements with the world. He proposes that we disengage that fundamental thesis that is the basis for our immersion in our life and theoretical worlds and see what this reveals about ourselves and the world outside. What is revealed is that there are structural conditions within us that shape the world that we naïvely thought was just “there” before. The rays of light emanating from us is contributory to the shape of the world and is what he calls *noesis*. There can be many rays of light all at once – psychological, social, cultural, scientific, anthropological, architectural, etc. These multiple rays are directed at things in the world, which allows the varieties of meaning to be united in the singularity of the thing.<sup>11</sup> The lit thing is the *noema* which is the world-component or thing, but by being lit, it is already constituted by the web of meanings that *noesis* entangles it in. Husserl talks about the *noematic* object to distinguish it from the “raw” object outside of any perception at all.<sup>12</sup> The *noetic* and *noematic* contributions of

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<sup>11</sup> In *Ideas II*, Husserl writes, “Now it is possible that objects are not only constituted *categorically* – by means of a plurality of theses, thus that these theses are in their constitutive operation categorially *united*; it is also possible that a *plurality of theses* may contribute to the *constitution* of objects *in another way as well*. The originary constitution of *one object* is obviously always carried out by means of *one object* is obviously always carried out by means of *one* thetic consciousness, and what *functions as “matter” for the unitary thesis* and furnishes the *objective “content,”* the objective *sense*, can, for its part, *refer back to a plurality of theses*. But the unity of the object need not in every case presuppose a *categorial synthesis* and in that way include it in its sense. Thus every *straightforward thing-perception* (that is, a consciousness giving the present existence of a thing in an originary manner)...” (Husserl, *Ideas II*, p. 20).

<sup>12</sup>In *Ideas I*, Husserl writes in regards to the noetic: “Every intentional experience, thanks to its noetic phase, is noetic, it is its essential nature to harbor in itself a “meaning” of some sort, it may be many meanings, and on the

the experience of place are both manifested inside consciousness and are therefore amenable to interaction and reciprocal influence. Obviously, the *noematic* contribution, being the world-component, has ontological ties with a materially existing thing in actuality as well.

When I discuss the field sites that City Tech professors use in their PBE practices, I will show how our *noetic* theses shape the *noematic* content of places (i.e. the world-component of sites) and vice-versa. I argue that our theses regarding the ontological status of the field sites that we interact with determine *how* we interact and what kinds of learning outcomes we expect. In turn, the *noematic* content helps to set the parameters of possible *noetic* interaction – in other words, whether the field site is a construction site or a virtual game, its manner of being sets the ultimate parameters of our curricular activities. The pandemic game that Cheng, Cohen-Brown, and Egues use to promote valuable learning outcomes plays out in the realm of the possible. It is able to simulate patterns of pandemic and therefore is useful in learning about pandemic in the real world, but the very point is to learn on the level of what is possible and hope it is not actual. The thesis that the game world is merely possible is part of the experience of this field site. It would take on a very different tone if the pandemic was actually real. This would be different from the theses an architect has about an actual building. King and his students interact with each other and materials in building their DURA structure in a way that is very different than if they were building a game in virtual reality. Like nature, once a physical building is built, it cannot be changed or eradicated without great upheaval. Our thesis about the status of a physical building shapes the way we interact with it. In their case, the kinds of material, the location, the design

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ground of this gift of meaning, and in harmony therewith, to develop further phases which through it become themselves 'meaningful'." (Edmund Husserl, *Ideas I*, translated by W.R. Boyce Gibson, New York: Routledge, 1931, p. 184) In describing the noematic, he writes: "Perception, for instance, has its noema, and at the base of this its perceptual meaning, that is, the *perceived as such*." (Ibid., p. 185). Finally, their relationship: "A *parallelism* between noesis and noema does indeed exist, but is such that the formations must be described *on both sides*, and in their essential correspondence to one another. The noematic field is that of the unitary, the noetic that of the "constituting" variety factors (*Mannigfaltigkeiten*)." (Ibid., p. 209)

and the engineering principles, etc. are chosen and executed with excruciating detail, for once built, the building cannot be edited or deleted with the push of a button like virtual reality can be.

One more point before going on to look at the PBE practices of the City Tech professors specifically: Under the radar so far is the role others play in Husserl's ideas about the world and places. Like Husserl, I only insert this question after the discussion of the subject-object relationship though constitutionally, intersubjectivity is at work throughout the process. Intersubjectivity is a problematic feature in Husserl in general as is suggested by the fact that *Ideen II* (where the role of the other is fully elaborated) was revised over a twenty year period. But once Husserl embraced it, he revised his mature view to reflect the prominence of the community of people in the constitution of the world and places. He states that all of our perceptions both of an "objective" world of three-dimensional things and the spiritual worlds of community are conditioned by intersubjectivity.<sup>13</sup> Through empathy, we get a sense of the world as one shared with other subjects looking out from their perspective in addition to my own solipsistic perspective. The widened perspective allows us to develop a sense of space; that it exists objectively for all and is multi-dimensional. Built places in particular exhibit the communal influence because its built structures frequently manifest communal needs and purposes, like churches and recycling centers, as well as require communal collaboration to design and build such places. Conforming our environments to our needs and purposes means that at bottom, they exhibit our communal norms and values as much as they exist as physical spaces. Indeed, it would not even make sense to talk about our built environment in any other way.

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<sup>13</sup> Husserl writes, "nature is constituted as intersubjectively common as determinable Objectively (exactly), and oneself as subject is constituted as member of this 'Objective nature.'" (Husserl, *Ideen II*, p. 178).

In the section below, I will discuss more specifically the kinds of places and interactions that the authors in the book explore using the concepts in Husserl I discuss above. I show that the field sites the authors use help shape the parameters of PBE curricular activities that are possible for each specific kind of place. Field sites may run the gamut from the natural environment, to an architectural site, to virtual reality, and even a blank canvas. I show that as places become more removed from natural, fixed spaces, the more it promotes interactivity. For example, a virtual game invites interactivity as a very essential part of its existence, whereas an architectural site is less interactive and nature is even less so. A blank canvas calls for even more interaction; indeed without interacting with the canvas, there cannot be an artwork at all.

### **The Varieties of Field Sites Used by City Tech Professors**

Thus far, I have been discussing notions of world and place phenomenologically in order to establish how ‘place’ may refer to sites as varied as a construction site, virtual reality, and a blank canvas. For Husserl, place is defined by the *noetic* meanings we use to shape the reality component or *noema*. Whether the place is physical or digital, it is conditioned and shaped by the consciousness that perceives and interacts with it. I would now like to discuss how the various field sites as discussed by the authors in this book shape the experience and outcome of PBE. I will utilize a distinction that Marie-Laure Ryan discusses in her article, “Immersion vs. Interactivity: Virtual Reality and Literary Theory.” There, she presents two ways of engaging in virtual reality (VR) as either immersive or interactive. She depicts them both as constructive, but an immersive engagement with VR presents itself as passive because the very point of such engagement is to lose a sense of self-reflexivity (one loses oneself into the reality). In contrast, an interactive engagement is self-reflexive because it comes with the “the power of the user to

modify this environment.”<sup>14</sup> It transforms the user from an observer to a creative member, one who must use her mind to make choices and act upon their environment, and therefore activates self-reflexivity.<sup>15</sup>

I believe that the self-reflexive property of interactivity is due to the fact that it activates the *noetic*, meaning-bestowing features of the mind in a more heightened way than one which is immersed in the *noematic* content. I argue that the more “natural” or realistic the place is, the more immersive it is; and that the further it is removed from the fixed realism of actuality, the more interactive it is. Furthermore, it is crucial that the learner’s theses about the sites (as Husserl talks about it) conditions how the learner relates to them. The thesis that the site is “there” as a fixed thing helps shapes our interactions with it, just as our thesis that the virtual site is changeable and only a matter of possibility will change our interactions with it.

All of these sites are created sites and therefore serve as a contrast to the natural environment. But King’s field site grapples with nature in a direct way when he and his colleagues and students scout locations to build their DURA building. In scouting a suitable location, they use their observation in assessing fitness based on fixed natural considerations – climate, vegetation, circulation as well as considerations of zoning and land use.<sup>16</sup> The next step also involves a fixed natural element – the suitable materials to be used in building. Like the natural environment, once built, the material composition of a building cannot be eradicated, changed, or revised without major upheaval. But this reality component of the place shapes how King, his colleagues, and students will interact with the site in the design and building process.

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<sup>14</sup> Ryan, Marie-Laure. “Immersion vs. Interactivity: Virtual Reality and Literary Theory,” *SubStance* 28 2 89 (1999), p. 121.

<sup>15</sup> *Ibid.*, p. 133.

<sup>16</sup> King, “The Solar Decathlon,” p.

Their design process, planning, and execution are painstakingly slow and careful since unlike virtual reality, the DURA structure cannot easily be undone.

As a field site, the DURA structure promotes communal and interactive engagement in the building process. It activates self-reflexivity because there are many levels of decisions from design to choices in material that are required to build successfully. Unlike the onlookers who will later observe the structure, the DURA members engage it as *creators* – their thesis is not simply immersion in the “there”, but an interactive one which will actually shape the *thereness*. But throughout the process, members of the team continually got resistance and push-back from the materials they interacted with. As King points out, City Tech was one of the only teams whose members participated in every level of the project from the design process to the construction process. Other teams organized certain members to design their structure, and different members to construct them in physical space. He believed that doing both was crucial to giving City Tech members a depth of knowledge that was absent in other teams. PBE of building DURA improved the learning outcomes in students because the City Tech team took full advantage of the field site as a place to learn through praxis – trial and error, and learning from mistakes.

I would now like to turn to a different “field site,” the digital one. King and his members also utilized digital media as part of designing the DURA structure, along with analog media. The digital platform was merely a proxy to the real goal of the project, a physical structure, but taken in and of itself, the software they used came with its own field-specific praxis. There, they could experiment, test, revise, and delete designs that were undesirable. They could do all of this because there is no physicality in digital space. It is the realm in which one can test the possible, and not be tied down to the fixed and unchanging realm of actuality. Ryan calls this feature of

digital being, “fictional truth.”<sup>17</sup> Joochan Kim in “Phenomenology of Digital Being” elaborates the ways in which digital being is different from physical being using phenomenology, and he too concludes that they are only “quasi bodily-present”.<sup>18</sup> Digital beings are not physical – they can be erased and revised easily, they are not temporal (Pac-man has not aged a day since its invention, nor does the game have time), and in other ways do not share features with physical objects. However, they are also not completely illusory – using code, we can create a world with sensory properties that can be as rule-governed as natural laws govern the universe.<sup>19</sup> We also interact with digital environments. Indeed, interaction and participation seems to be at the very crux of digital being.<sup>20</sup> Taking my cues from Kim, I argue that the digital environment has its own distinct modality of being and not merely a representation of actuality. Indeed its virtue lies in its very being as not the physical.<sup>21</sup>

I point to the chapter by Blake and Liou-Mark, as well as the chapter by Cheng, Cohen-Brown and Egues who use virtual atmospheric modeling and the game *Plague Inc.* in their curricula, respectively. The two digital media are very different – one uses atmospheric modeling to simulate actual patterns of superstorms to learn how they behave in the real world; the other is a game that simulates the way plague spreads in the real world in order to achieve fictional game goals. But following Kim, the two digital platforms both seem to share the feature that they are valuable as learning tools because of their very lack of actuality.

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<sup>17</sup> As in Ryan, *Immersion versus Interactivity*, p. 133.

<sup>18</sup> Kim, Joochan, “Phenomenology of Digital Being,” *Human Studies* 24 1/2 (2001), p. 94.

<sup>19</sup> *Ibid.*, p. 97.

<sup>20</sup> Many scholars attribute digital being with these characteristics – I noted Ryan’s observations earlier. Kim also observes that one can “labor, work, and act” on digital being (*Ibid.*, p. 91), and in “Spirit of Place and Sense of Place in Virtual Realities,” *Techné* 10 3 (Spring 2007), Edward Relph writes that “Virtual places don’t have readers or viewers—they have participants.”

<sup>21</sup> Kim, “Digital Being”, p. 91.

Unlike *Plague Inc.*, the virtual atmospheric modeling that Blake and Liou-Mark uses in their course, *An Introduction to the Physics of Natural Disasters*, plays a representational role in its simulations. The models do not seek to entertain possibilities (though they could do that given that they are only virtually real), but seeks to represent the actual behaviors of superstorms like Sandy which catastrophically hit New York City in 2012. Using Husserl's ideas, I extract two crucial theses that accompany the students' interactions with the models – the first is the thesis that the models are merely simulations and not the real thing. They would certainly not be focused on learning if they thought they were confronted with an actual natural disaster. The second is that because they are digital, they encourage interactivity. A real storm does not have an on/off button; the simulated models do not activate unless a student decides to turn it on and use it for some purpose. Using the language of Husserl, it is worth pointing out that the *noematic* content here is on a par with physical objects. The simulations are perceptible and has durability, substantiality, and extension, just as physical objects do.<sup>22</sup> Our *noetic* theses regarding an actual storm and a simulated one can parallel one another very closely, except of course for the fact that one is real and the other is simulated.

The digital game, *Plague Inc.*, is used in the first module of the course, *Healing the Body: The Visual Culture of Medicine* to teach pandemic epidemiology to students. Students use the lessons that they draw from the game to write an essay on infection rates and transmission speeds. The objective of the game is to spread a pandemic as quickly as possible to end the human race. The game simulates aspects of real-world conditions that affect the spread of plague, the real-world behavior of plague, as well as real-world research tools like data collection. But the goal is not to immerse oneself in these simulations, but to interact with the game by changing the conditions in order to produce the desired effect. As a virtual place, it

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<sup>22</sup> *Ibid.*, pp. 90-91. Kim describes how certain digital formats share the same features as physical being.

promotes experimentation with the possible. It seems to function as a place in a number of ways – the environment of *Plague Inc.* has definite parameters of context, laws, and visual perceptual data. Students are also asked to problem-solve to achieve the goals of the game, and if they chose to, they could act collaboratively with others. But the important thing is that students have the crucial thesis that this is just a game; it is only happening in the realm of a quasi-being and not the actual world. By relating to the game in this way, they are able to entertain different possibilities by changing the contributory factors, like the economy of a nation or the means of transmission (e.g. rats). It is a valuable learning tool for the very fact that it is not actual.

I want to touch upon the other “field site” that Cohen-Brown, Cheng, and Egues discuss in their chapter - the artwork. It may sound like a stretch to call it that, but in a way, the artwork functions much like a place as we have talked about it phenomenologically in that it has a world-like frame and it has a visual *noetic-noematic* structure. The canvas is a specific context for interaction which is productive of a created object. This modality of PBE even helps to solve problems – in the case of art therapy, it solves the problem of emotional trauma. If we interpret what is going on based on Husserl’s ideas about *noesis* and *noema*, we see an interesting variation in this case. The artwork is obviously a different modality of being than either the built physical environment or the digital one. Phenomenologists see art as a distinctively “pure” activity in that it depicts the very creative process itself. In some genres of art, in fact, artists do not depict real-world objects at all. What seems to be crucial is capturing the *noetic* process ending in some visual *noematic* form. This is a “pure” process in that it depicts the implicit ways in which the *noetic* theses are always contributing and shaping the *noematic* content even in the real or virtual world. In the case of art, the difference is that the *noetic* activity *is identical* to the *noematic* content.

I want to also briefly discuss the special case of online communities as MacDonald uses in her *Environmental Ethics* class and writes about in her chapter. Husserl talks about a social or spiritual space that has both a subjective correlate and an objective correlate that parallels the *noetic* and *noematic* poles when we looked at places.<sup>23</sup> He came to the understanding that we are surrounded by communal norms and values that cannot be tied specifically to a physical place. For example, if members of a church decided to hold service outdoors on one Sunday, the social space would be a similar or the same spiritual space whether it inhabited the physical environment of the church or the outdoors. Husserl suggests that such a social space is constituted by communication and is more or less purely intersubjective.<sup>24</sup> This seems to describe the online community discussion board exactly. One need not be physically present to be together in community. What is important is that there is communication, rules of that communication, and empathy that “senses” the presence of others emanating from a horizon out there. This absence of the presence of the other is a dual-edged sword as anyone who has participated in an online discussion knows. MacDonald points out a positive outcome of the hidden other – her shy students feel more comfortable participating in an online discussion than in a classroom one. On the other hand, online discussion boards can become quite vicious – in this case, the hidden other is stripped of essential features that present others seem to instill in us. In any case, for Husserl, the “hidden” presence of community is a fundamental ontological condition that is co-present in all of our perceptions and is with us throughout our daily activities – we know we are part of a college community even when our studies take us outside the visible

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<sup>23</sup> Husserl writes, “The subjects in communication with one another constituted personal unities of a higher level, the sum total of which, extending as far as actual and possible personal ties do, makes up the world of *social subjectivities*. To be distinguished from this world of social subjectivities is the world correlative to it an inseparable from it, the world *for* these subjectivities, the *world of social Objectivities*, as one might say.” (*Ideas II.*, p. 205).

<sup>24</sup> Husserl writes, “The subjects communicating with one another belong mutually, for one another, to the surrounding world which is relative to the Ego that at any given time is outwardly circumspecting and is constituting *its* surrounding world. And this Ego itself belongs to its own surrounding world in virtue of self-consciousness and in virtue of the possibility of all sorts of self-directed comportment; the subject is ‘*subject-Object*.’” (*Ibid.*)

presence of others; we know that the food we eat in the cafeteria were made by staff some of whom we may never know. In an online community too, there is a hidden presence of others, and unlike a physical place, the implicit community constitutes *both* the self and world of the shared space.

## **Conclusion**

Using Husserl's concepts of the *lifeworld*, *personalistic attitude*, *noesis*, and *noema*, I wanted to elucidate place as interdisciplinary, communal and interactive. These are the characteristics that seem to be crucial to the practices and outcomes of PBE. I paid special attention to the urban and virtual environments as they seemed to activate self-reflexivity, perhaps more so or at least in a different way than the natural environment. Built places invite interaction, which requires decisions, actions, and participation. As many PBE supporters would argue, this kind of engagement is exactly what makes PBE more effective than learning by a book or in a classroom – place provides a dynamic center around which ideas and theories can be applied and tested towards solving problems. Indeed we are conditioned to interact with place in this way throughout our history with the *life-world*. PBE is, in a way, a return to the familiar and original situation we occupied pre-theoretically. All disciplinary frameworks come from this original engagement, and explains why PBE is inherently interdisciplinary.

I also chose these concepts in Husserl because they seemed to be ideal for making sense of how such a variety of “places” could nonetheless function in similar ways in effectively promoting learning outcomes. Husserl articulates a *world* that encompasses both the meaningful component and the physical or virtual reality. The contributions of the subjective, meaning-bearing consciousness or the *noetic* is, for Husserl, constitutive of the reality-component of the

world, the *noematic* content. In other words, places are uncannily familiar because we are reflected in them in deep ways. New York City is particularly rich in a huge diversity of urban and virtual places. As we walk around it, we might see the Statue of Liberty that has symbolized the American virtue of openness and opportunity, or the Freedom tower that has come to symbolize American resilience. Not too far from either site, we also find Wall Street, the symbol of American capitalism, and perhaps greed. As Newsweek reported in a 2015 article, it was also once the site of the slave-trade.<sup>25</sup> Built places bear the mark of human values (both in good ways and bad), politics, history, and effort. Their existence and shape were not inevitable like the sun rising in the West or the rain falling from the sky. They were the result of deliberate decisions by those who had the power and resources to create them in actuality. Reflecting and acting on places can remind the student of her own reflexive relationship to the world.

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<sup>25</sup> Nazaryan, Alexander "New York City Would Really Rather Not Talk About Its Slavery-Loving Past," *Newsweek*, April 15, 2015, <http://www.newsweek.com/2015/04/24/new-york-city-would-really-rather-not-talk-about-its-slavery-loving-past-321714.html>.

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