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ATMOSPHERIC PERCEPTION IN DIGITAL SPACE

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Abstract

Architectural space has some triggers for unique experiences and one of them is its atmosphere. The atmosphere has an unstable structure, instead of static affectivity, and it feeds on uncertainties of spatial experience. Thus, instead of analyzing the dynamic atmospheres through reductionist definitions, it is necessary to address the existing ontological ambiguity of it. Theories of the atmosphere mostly correspond to physical spaces. However, COVID-19 brings about exponential enhance of digitalization. These digital interactions require a spatial dimension. The atmosphere, as one of the fundamental elements of space, needs attention in digital experiences. This paper aims to explore the perception of the atmosphere in digital space. First, the character of the atmosphere and its role in the architectural space have been reviewed. Later, physical space and digital space were compared in order to build the atmosphere belonging to digital space. Digital space is able to diffuse itself with tensions. We are capable of immediate appreciations, e.g. being inside or outside. Thus, the threshold between bodily experiences and mental emergence becomes the blurred one. Atmospheric interaction can be part of the digital space and this interaction strengthens the spatial dimension of the digital medium. However, instead of producing a simulation of the atmosphere in the physical space, it is necessary to analyze the characteristics of digital space and build a unique atmosphere specifically for it.

Keywords: Atmosphere, Affect, Digital space, Architecture, Perception, COVID-19

Introduction

In the colloquial language, the word atmosphere is also expressed in different words such as mood, affection, ambiance, aura and tonality. However, each word has a different etymological ground. Besides, many different contexts address the atmosphere. There are, for instance, discussions on the atmosphere of societies, architectural places, landscapes, works of art. Various concepts have been developed for the atmosphere in narratives and research (McCormack, 2008, Brennan, 2004, Böhme, 2017, Borch, 2014, Griffero, 2014, Stewart, 2007). Rather than having reduced definitions, there is versatility in the perception of the atmosphere (and its affectivity). This paper reviews it by keeping the uncertainties for the concept of atmosphere, rather than presenting a static definition of affectivity and atmosphere. Since it may remain indefinite even as they affect (Anderson, 2009). In other words, atmospheres have an ongoing ontological ambiguity.

When the characteristic features of the atmosphere are considered, the underlying aspects of the ambiguity need to be observed. The atmosphere, which is based not only on uncertainties but also on certain aspects, feeds the ambiguity with that its opposite features. Similarly, mood and attunement, due to their forms, enhance ontological haze as well. The fact that it shows atmospheric radiation without any direction also makes it difficult to draw the boundaries of the atmosphere. Moreover, it is not easily seen where the particular atmosphere begins and ends in the interaction of subjects with objects and/or other subjects.

In a comprehensive review, atmospheres are considered as 'tinctured' (here, the lightness of this concept can be seen as a source of indeterminacy) or 'tuned' spaces (Böhme, 1993). Examining the ontological structure of the atmosphere in the field of architecture can increase the knowledge and experience regarding its spatial and temporal dimensions. As notes by Zumthor (2006): *"I enter a building, see a room, and - in the fraction of seconds - have this feeling about it"*. Material arrangements such as composition, temperature, sound, proximity, scale, and light are effective in sudden appreciation of the atmosphere. However, there is a constant exchange between material perception and immaterial imagination. Therefore, there is continuity as well as its unstable structure.

COVID-19, which has turned into a pandemic, has led to many severe transformations in life. Social distancing and pandemic situations have significantly increased digital communication, which was going on slowly. Nevertheless, accelerating digitalization - due to the missing of the spatial dimension of digital media - bring about some predicaments. One of these predicaments arises from producing atmospheres or perceiving existing atmospheres. Atmospheric experiences can play a significant role in the perception of digital space. In the process of staying at home, the importance of houses with gardens and balconies has increased. However, this may be due to the perception of the digital space as the "other" besides the physical space, lacking in spatiality. Digital spatiality, thus, needs to be developed. There may be digital spaces with an atmosphere as well as green areas to escape, to feel free, and experience a change of atmosphere when staying in a limited area (i.e., home).

The Character of The Atmosphere

There is an increasing interest in the sociological and spatial research of the atmosphere. These studies contribute to the understanding of the atmosphere on the characteristics of it. The atmosphere is built in such a way because it has no structure that can be limited by strict definitions. Dufrenne (1973), one of the leading figures on the debates regarding the atmosphere, did not aim to make a clear definition of what the atmosphere is. Instead, he has offered a number of approaches to look at the aesthetic object. In a similar vein, there will be a reading of characteristic aspects of the atmosphere in this chapter.

Although it has no clear boundaries, it is difficult to say that the atmosphere is completely amorphous. First, this claim would be an attempt to set boundaries on its structure. Second, its etymological origin does not address this either [atmos = exhalation / vapour, sphaire = sphere / globe (Griffero, 2014)]. The sphere, here, should not be perceived in just a formal way. The sphere expresses a spatiality that has a center and diffuses affectively from its center. What sets the boundaries of the sphere is the certainty of the affect. In other words, the comprehensibility of experienced feeling.

The Union of Opposites, The Fusion of Tensions

> *"Harmony between opposites; forgiveness and sin*
>
> *All opposites are in a fight, all opposites are in peace."*
>
> Necip Fazıl Kısakürek
>
> [translated by the author]

It can be analyzed how the atmosphere, which appears ambiguously due to its nature, maintains this ambiguity depending on its characteristics. The term, which is often referred to in metaphorical uses, gives some clues in the context of the text of Marx (1978 [1856]) as a *"revolutionary atmosphere"*. Here it is combined as to be suppressed, surrounded and affected actions. In his text, there is material imagination with the fluidity from *"oceans of liquid matter"* and the solidity belonging to the soil from *"hard rock"*. These multiple materialities in the same subject give an idea of the unstable structure of the atmosphere. Anderson (2009) examines Marx's use of atmosphere, then puts observations of Böhme (1993) and Dufrenne (1973) in the field of phenomenology and juxtaposes these different approaches. Following that, he makes some fundamental inferences. First, it has a dynamic structure (with the meteorological atmosphere discussed through Deleuze and Guattari (1988)). Tiffany (2000) reflects on winds, clouds, rainbows and other atmospheric instances; and associates the atmosphere with the uncertain, disordered and contingent. Further, it never achieves its stability. Second, *"[The concept of the atmosphere] holds a series of opposites – presence and absence, materiality and ideality, definite and indefinite, singularity and generality – in a relation of tension"* (Anderson, 2009). Metaphorically, it can be said that this pool, where opposites are mixed together, boils up due to the heat of tensions. This corresponds to a continuous movement from fluidity to cloudiness and from cloudiness to fluidity. Since the discussions regarding the atmosphere contain the opposites together, it shows the necessity of addressing the atmosphere built in any phenomenon with its opposite side. It provides a way to see tensions in the atmosphere. Thus, trying to hear and feel the boiling of tensions allows a more comprehensive observation of the atmosphere.

Mood and Atmosphere

Has a starting point for the discussions of the atmosphere in the literature, Heidegger (1962) has stressed the concept of mood and attunement. They originate as *Stimmung* (mood) and *Einstimmung* (attunement). There are different translations of Stimmung, such as 'mood' or 'Being-attuned' (Heidegger, 1962); 'attunement' (Ruin, 2000); 'an attunement to things' (Edwards, 2010); disposition' or 'affect' (Shepherdson, 2007). Moods are relational so that it is part of being, rather than being sort of side-effects. *"It seems as though a mood is in each case already there, so to speak, like an atmosphere in which we first immerse ourselves in each case and which then attunes us through and through"*

([Heidegger, 1995](#)). Having some moods characterize the being. Further, the mood is influenced by the way things stand out from themselves in both material and mental sense ([Ogawa, 2000](#)). The standing-out, here, is related to Husserl's concept of Abhebung (standing-out). It indicates object's transcendence and qualitative relation to the world: *"In standing-out, a thing comes forth in a field of appearances, a field that envelops me in a certain atmosphere or mood"* ([Ogawa, 2000](#)). [Heidegger (1995)](#) claims that boundaries, such as subject and object, are transgressed through the atmosphere. Furthermore, the subject's mood and its atmosphere provide intersubjective attunement. It also ties individuals, places and things. It is possible to see some clues about the diffusional character of the atmosphere from this integrative attitude.

Diffusive Manner of Atmosphere: Haze of Existence

Affection spreads in the space through an atmosphere. In order to clarify this situation, it is necessary to consider the intentional structure of the atmosphere. Intentionality is a consciousness that is clearly and volitionally directed toward discrete objects ([Husserl, 2001](#)). It is not just a mental orientation toward a thing or subject. It is embodied intention shaped by bodily experience. Concurrently, it is affective intention regarding the way we think and feels ([Slaby, 2008](#)). With pre-reflective and affective sides, [Merleau-Ponty (2002 [1945])](#) suggests operative intentionality. It refers to the natural and pre-predicative unity of the world. Therefore, it has potential clues for the structure of the atmosphere which has pre-reflective and non-directional character ([Trigg, 2020](#)). The subject finds himself/herself in the atmosphere and finds out a series of meanings, earlier than the atmosphere is located to objects and situations clearly. This is pre-reflectivity of operative intentionality.

The non-directional structure of the atmospheric orientation emerges through these explications. An atmosphere that has operative diffusion does not present itself as an object of intentionality like a book on the shelf. When the individual grasp this book, intentional consciousness is defined to the book in a direct spatiality. The individual is able to comprehend where its beginning and ending points. However, the orientation in the atmosphere does not occur with such an orientation towards a certain direction. Instead of being directed at an object, the atmosphere uncontrollably diffuses into the environment (Figure 1).
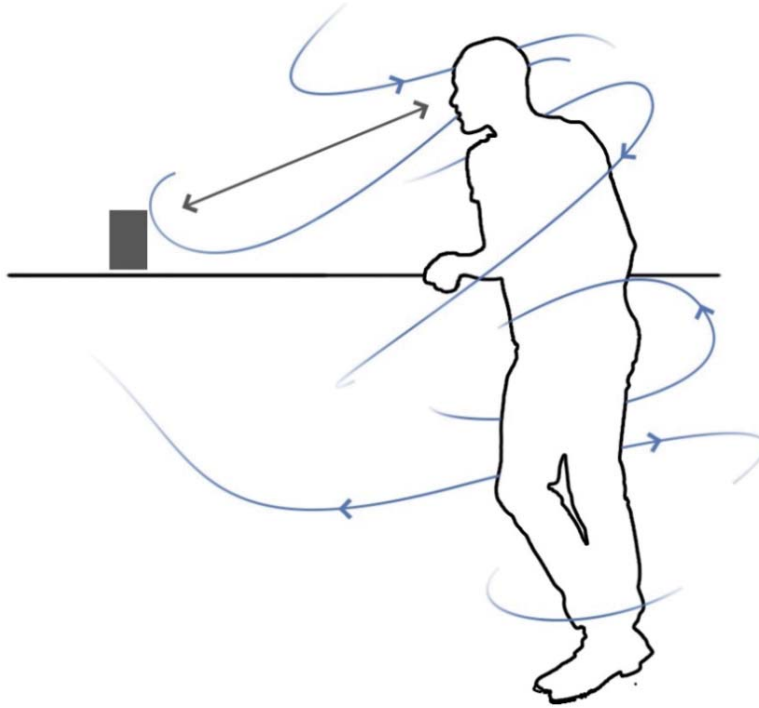
When entering a room and a specific atmosphere begins to be felt, it is difficult to determine where specifically it is. It has a dimension that is irreducible to localized things. It is non-directional and blurs the distinction between subject and object. For the difficulty of placement of the atmosphere: *"We are unsure where they are. They seem to fill the space with a certain tone of feeling like a haze"* (Böhme, 1993). This blurry and hazy appearance comes from the coexistence of indefinite and definite features in the structure of the atmosphere. It is indefinite due to non-directional diffusion and blurring of subject-object distinction. On the other hand, since its affective character is grasped immediately, it also includes definite features.

Subject, Object and Their Positions in the Atmosphere

While analyzing the aesthetic experience, Dufrenne (1973) offers some clues about the place of the atmosphere in the subject-object relations. The atmosphere of an aesthetic object indicates an 'expressed world' which does not represent space-time but creates intensive space that excess a represented world for subject-object. This intensity produced an atmosphere in which a represented object can be grasped and acquired a certain meaning. the atmosphere plays a key role in an 'expressed' space-time. A feeling of emptiness in a verse of Macbeth (Dufrenne, 1973) and the motionless opacity of Cezanne's landscapes (Dufrenne, 1973) are some instances for expressive narratives. The expressed world and intensity signify the inherent ambiguity in the atmosphere.

In Böhme's emphasis on the ambiguous structure of the atmosphere, it deals with in-between situations related to the subject-object distinction:

"… atmospheres are neither something objective, that is, qualities possessed by things, and yet they are something thinglike, belonging to the thing in that things articulate their presence through qualities – conceived as ecstasies. Nor are atmospheres something subjective, for example, determinations of a psychic state. And yet they are subjectlike, belong to subjects in that they are sense in bodily presence by

human beings and this sensing is at the same time a bodily state of being of subjects in space" ([Böhme, 1993](#))

This situation can be read as not just the association of space and feelings, but also the dissolution of the object and the subject into each other. But there is neither subject nor object hegemony. Atmospheres are *"spatially discharged, quasi-objective feelings"* ([Böhme, 2006](#)). To us, it can also be called quasi-subjective space owing to having the feeling. It has both situations with blurry boundaries. Figure 2 manifests a diagram that seeks the relations between the object and the subject.
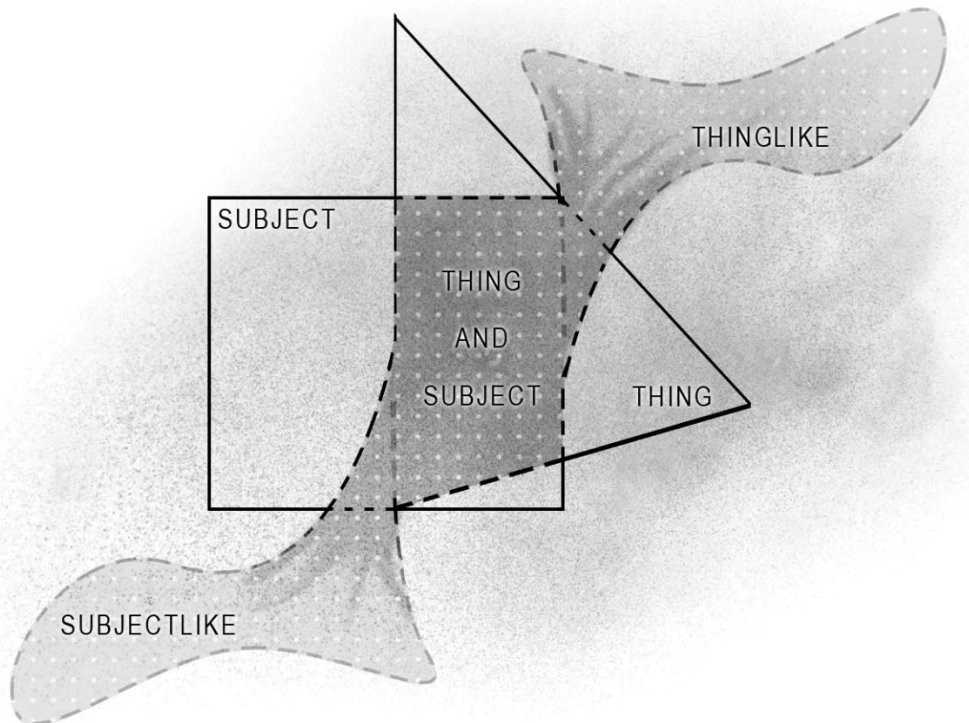

Figure 2. The atmosphere is objectlike and subjectlike with diffusion like a haze

The perception of the environment may be various, depending on the cultural and socio-political structure of the subject. The indefinite, unstable and ambiguous nature of the atmosphere provides an affinity to the subject and demonstrates that it has an appropriate structure to develop an intersection in subject-object and subject-subject relations. *"Atmospheres [as] feelings poured out into space"* ([Griffero, 2014](#)) are at times is supersubjective and other times superobjective. *"Atmospheres do not act as the causes of the influence, but are the influence itself. … Atmospheres are not the property of some object, but, as quasi-things, they coincide with their own phenomenic character"* ([Griffero, 2014](#)). The discourse of quasi-things is an analogous view that is being both objectlike and subjectlike. *"Atmosphere is a mental 'thing', an experiential property or characteristic that is suspended between the object and the subject"* ([Pallasmaa, 2014](#)). To sum up, it reminds the subject with its 'mental' side, the object with its 'experiential' side, and parallels the haze discourse with its 'suspended' character.

Architectural Atmospheres

A historical introduction can be drawn to the discourses about the atmosphere in space as *"genius loci"* ([Norberg-Schulz, 1980](#)). Genius loci is a discourse that can be associated with the atmosphere as a

phenomenological experience where all the senses are integrated. An atmosphere is able to give its own perceptual and memorable character to a place. There is an embedded perception on the basis of its own character. In other words, it is a complex combination of numerous factors recognized as an atmosphere, emotion, mood or ambiance. This recognition happens *suddenly*. Thus, this is an immediate emotional reaction that emerges spontaneously. Zumthor (2006) described the atmosphere under nine sections based on his personal experiences: (1) The body of architecture; (2) Material compatibility; (3) The sound of a space; (4) The temperature of a space; (5) Surrounding objects; (6) Between composure and seduction; (7) Tension between interior and exterior; (8) Levels of intimacy; (9) The light on things. The understanding of the atmosphere by Zumthor is similar to Anderson (2009) (based on opposites), but this tension is basically highlighted with the inside-outside dichotomy. Proximity, the scale and proportions of the space also affect the emotion to be produced there. Hence, the approach of Zumthor draws attention to the perception of a material-wise atmosphere.

Architectural has multisensory, the space is grasped by the eye, ear, nose, skin, tongue, skeleton, and muscle. *"My perception is [therefore] not a sum of visual, tactile, and audible givens: I perceive in a total way with my whole being: I grasp a unique structure of the thing, a unique way of being, which speaks to all my senses at once"* (Merleau-Ponty, 1964). It seems like the eye is the key to the collaboration of the senses. However, Pallasmaa (2012) holds the argument that all of the senses, including vision, are extensions of the sense of touch. Hence, there is a need for paying attention to haptic sensation as much as visual sensation. Parallel with Zumthor, atmospheres have a haptic and material presence in the studies of Pallasmaa.

Until now, the atmosphere debates mostly indicate physical space. Considering that the tendency to digital means has increased considerably due to the COVID-19 pandemic, the atmosphere, which has a serious significance in the perception of the physical space, should also be addressed in the digital space. In other words, the characteristics and spatial distinctions of the atmosphere needs to be followed through the digital space debates. They can make important contributions to the perception of the digital space.

Implications for Digital Space

The atmosphere of a room before any meeting or entertainment, the atmosphere of a large-scale holy building, the atmosphere of a city, the atmosphere produced by the unity of people in a crowd, a personal atmosphere that surrounds the individual... It is possible to talk about atmospheres on quite various scales. This study gradually focuses on the atmosphere of the architectural space. While there are discussions often developed for the atmosphere of physical spaces, there is a need to seek digital spaces in this sense.

Distinctive Approaches for Digital Space

Before focusing on the atmosphere in the digital space, it is necessary to clarify what is meant by the digital space. Since this concept is used to express different types of spaces in the literature. Virtual realities, three-dimensional visualizations, and spaces in computer games are examples of digital spaces that are mostly used as replications of physical space. A second view in the understanding of the digital space has spatial dimensions of digital information. It is necessary to start with a brief review of atmospheric interactions in these two situations.

The *first concept* of digital space is simulations of physical space created with digital tools. Degen et al. (2017) have evaluated the atmospheric effects of such productions through visualizations produced

by an architectural office. They interviewed people with different roles during the process of the project and examined the image archives produced throughout the project. In visualizations, it is mentioned that a story is set up to convey an affective mood and the nuances based on this story are added into the visuals. The use of colors and a sense of mobility, the addition of people with the cultural clothing, the addition of a more common form of the sky in that geography, and a smoky air effect to convey the dusty wind based on geographical reasons. It is important to instill climatic effects and mobility (avoiding an image without life) for the impressions about the atmosphere. Considering its meteorological origins (Deleuze and Guattari, 1988, Tiffany, 2000, Griffero, 2014), it is consistent with producing the atmosphere. However, rather than creating a spatiality, it is producing the representation of the space. It has complexity but is mostly produced as a result of formal grammar. Understanding the space in this way corresponds to the use of the language of visual-oriented architecture that is based on material and geometric shapes which are criticized by Pallasmaa (2012), even if it has atmospheric concerns.

The *second concept* of digital space does not include the reproduction of any physical architectural element, such as the wall, with digital tools. This space focuses on unique spatiality that it can establish from its own structure, rather than being expected to produce conventional spaces with the use of digital means. The suggestion is here: Atmospheres that are specific to the character of the digital space can be built, instead of complying with the character of the physical space. In the next sections, there will be inferences towards the second concept by examining what these two perspectives produce in response to the character of the atmosphere.

Digital Tensions

Thinking of the features of digital space with their opposites (and different forms) is a crucial part of the atmospheric query (containing series of opposites and having a tension due to its unstable nature). Because most features in tension foster atmospheric inquiries. In order to understand their atmospheric interactions, there is a need for a comprehensive study of the tensions arising in the digital space. This paper has introductory inquiries of some of the features including tensions. In doing so, we compare two concepts of digital space or compare physical space and digital space.

While there is a series of opposites in physical spaces, a multi-layered tension arises in the digital space resulting from going beyond the usual experiences of the physical space. For instance, the density of the material and mental items and the change in the forms of communication established with these items create a compelling situation to appreciate the atmosphere in the digital space. In the digital space, it would be an impractical way to search for the exact translation of physical experiences. Since material and physical experiences in the digital space provide different responses from other conventional interactions, it increases the tension. The decrease in embodied activities in the digital space causes the missing of material presence (so that haptic sensation). However, due to the increased diversity and flexibility of mental experiences, there may be a different sense of atmosphere resulting from unusual or unexpected interactions with the body.

Immediate Appreciation and Mood

Mood, one of the primary phenomena that build the atmosphere, is a structure that we immerse ourselves in. Parallel to Heidegger's (1962) mood (*Stimmung)*, Zumthor (2006) explains his atmospheric experience as *"I enter a building, see a room, and - in the fraction of seconds - have this feeling about it"*. The things that correspond to the immediate appreciation of finding oneself in an atmosphere can also be explored in the digital space. Basically, it seems to be faced with a machine that

can be turned on and off at any time. Therefore, it does not progress as in the process of first being into it, then understanding what we are in. Even if the process works like that, the user of the digital tool organizes what and how to find himself/herself in there. It is a pre-organized process. However, it is not possible to prepare for the emotion to be felt in the physical space, it takes place *in the fraction of seconds*. The digital space seems to be the space of planned actions and a structure that does not allow suddenness. however, there is no such limitation in digital space, it's just the way we are used to being there. It should be noted that we always have the chance to get lost in the infinite space of the digital space and find ourselves in unexpected areas. Even if everything is planned at the beginning of the action, we may find ourselves thrown into a completely different situation and environment. Although this situation seems to indicate the getting lost, it shows the existence of spaces in which we can suddenly find ourselves, and therefore potential atmospheres. This implicit mood is integrated with atmospheric experience. It is a trace of the spatial character of the digital space.

On the other hand, the corporeal impulse is less stimulated in the sudden appearance of the digital atmosphere compared to the physical space. This may reduce the perception of the atmosphere, as it weakens the dominance of the mood. Rather than trying to produce bodily experience with imitations of the physical space, it is necessary to focus on the specific bodily experience for digital space. In this way, instead of thinking that the physical experience is completely lost and the atmosphere cannot be revealed, the experiences of the digital space, the ways of forming the mood and intensified atmosphere can be found.

In addition, the opposite of immediate appreciation of being in the digital space is also available: finding ourselves outside in a fraction of seconds. It offers an experience that differs from the physical space because it is a point where the will of the individual is lost. For instance, a participant can be kicked from the space he/she entered in unexpected situations such as the sudden disconnection of the internet or the application may stop by itself. In response to Zumthor's remark, the following kind of experience can be mentioned in the digital space:

"I enter a digital space, see its spatiality, and - in the fraction of seconds - have this feeling about it. However, the space leaves me alone with a sudden interruption. At this stage, I either leap into other spatialities or I am left with the physical world itself. In any case, I find myself in an atmospheric experience that initiated by disconnection."

(it is an experience of the author at online meeting for this article)

In a nutshell, it is a unique feature of digital space and examining this experience in depth can build the atmosphere for the specific character of the digital space.

Pseudo-Directional Intentionality in Digital Space

In the atmosphere defined on the basis of operative intentionality ([Merleau-Ponty, 2002 [1945]](#)), there is an awareness of the current situation or experience before any reflection. The atmospheric side of intentionality is hidden in its pre-reflective character. This pre-reflection separates the atmosphere from objects. Penetration of the atmosphere via diffusion enables pre-reflectivity. The fact that the means of the digital space is an object may cause it to appear to have no diffusional power as if having towards a certain direction. Again, the distinction here depends on how the digital space is understood - as the first or second concept of digital space (see, Figure 3).
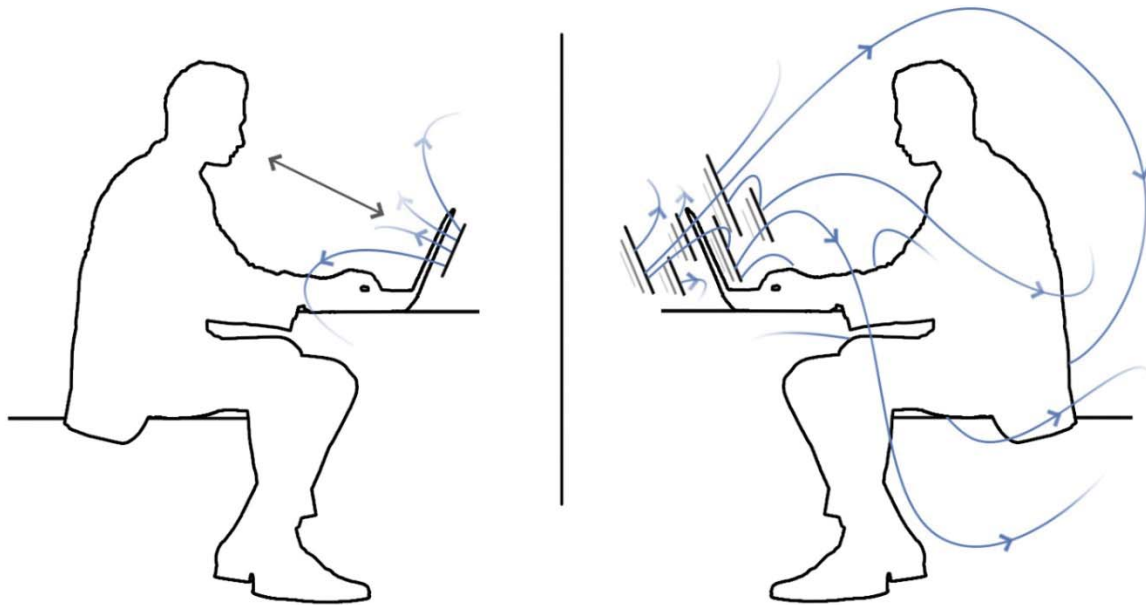
Figure 3. Directional VS non-directionality potentials of digital space

When digital space is considered as images that produce the representation of the physical as in the first concept, it becomes a visual that takes place in a single frame (and denies possible spatializations). This visual does not interact with other digital items (it is a downside of the first concept), it communicates directly with the subject. Therefore, it allows only directional intentionality and it is difficult to obtain an atmospheric dimension. In the second concept of digital space, all elements in the digital medium are ready for interaction with each other. It brings about a multi-layered organization. In a multi-layered structure, it becomes impossible to determine where space (and atmosphere) begins and ends. The digital space composed of these layers is able to initiate diffusion and to associated with the atmospheric experience of the subject. Future research on the diffusion of digital space has the potentials to strengthen the spatial dimension of the digital by increasing awareness of atmospheric interaction.

Digital Space in Subject-Object and Subject-Subject Interactions

The moments in which the structure becomes clarified in physical spaces usually take place when the whole building is grasped and there is no experience of its atmosphere. Likewise, when there is an intense orientation of space towards an object or a subject, its atmosphere can be seen to disappear. This indicates the unique existence of the atmosphere, which is neither an object nor a subject. In the first concept of digital space, digital tools do not go beyond being an object. Therefore, the digital atmosphere strives to exist in an object. In the first concept (the atmosphere within the images in which the representations of the physical space) the atmosphere between the subject and the object is within the single image. In this image, both the subject and the object are a representation. Apart from this image, there is also a non-representative subject who observes the image. The subject tries to find resonances in his own life from the representations of the image. With this effort, he/she attempts to percept the atmosphere in the image. As a result, the image (producing the replication of the physical space) dictates the subject to produce the replication of the physical atmosphere in that space. In such an interaction, there is an atmosphere only as a connotation rather than being subjectlike and objectlike.

Quasi-objective feelings which are spatially discharged (Böhme, 2006) can emerge in the second concept of digital space (that does not constraint itself within an image). Whereas the first concept set (and defines) the boundaries, the second concept blurs the boundaries. In order for the atmosphere to appear, as mentioned before, it needs to become unidentifiable as an object or as a subject by blurry boundaries. In the first concept, there is an experience embedded in the object (digital tool). In the second concept, there is "*an experiential property or characteristic that is suspended between the object and the subject*" (Pallasmaa, 2014). Thus, the digital space creates a spatial dimension rather than being just an object or tool. It evokes the subject with its mental aspect and the object with its being a provider of experience. However, with spatial contributions, it does not exist as an absolute object or as an absolute subject. Moreover, when it *"fills the space with a certain tone of feeling like a haze"* (Böhme, 1993), the atmosphere in the digital space begins to reveal itself.

Following the emergence of a spatial dimension in the digital space, the object becomes the content of the digital medium, not the digital medium itself. For this reason, instead of seeing digital tools as objects, it is necessary to consider them as a space in which different spatial dimensions are opened to each other. From this origin, it may be possible to imagine and design a digital space where the subject can travel between spaces and to produce unique atmospheres specific to its own character.

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