

Sensing public space

## Abstract

We have always perceived our environment as a theatre. However, it has only been a few decades since we began to perceive our environment more as a dynamic path, interpreting it as a strip rather than a fixed frame. Now we talk about "promenade architecturale", strolling, wandering.

Simultaneously, diverse urban projects have emerged in the idea of optimising the growth of cities, from organisation planning to radical utopias. Making large scale projects includes numerous factors and often tend to consider so many different large scale factors that the everyday perceptions often seem to be forgotten.

The interpretation of public space is all a matter of senses and how we deconstruct the overflow of information. We aim to have a better understanding of our environment and how we perceive it. Therefore, we decided to dig deeper in the notion of perception through the senses.

Everything around us is perceived through one of those 5 channels, our senses, that links us to the tangible world. By isolating each sense, we follow the path of a simple "rough texture", a "bell ringing", a "smell of breakfast" or even a "luminous sign" from the basic raw experimentation of the body to the alchemy in the brain that results in a mixture of interpretation. All of this information generates the "atmosphere" we sense of an urban space.

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# 1 Introduction

## 1.1 Context

How a public space is perceived depends on many different factors, some of which change due to time, weather, lighting, how crowded the space is or even how the use of it changes. There are also more personal elements depending on ourselves: the clothes we wear, if we listen to music, why we are there, what we previously knew about the place, which mood we are in, what company we are in and so on. How we interpret our senses also plays a major part of the interpretation of space. This essay focuses on how we change our perception of public space by using, blocking, focusing and interpreting our senses differently.

## 1.2 Purpose

By separating and giving an equal focus to each sense, the purpose is to investigate how the interpretation of space can change by the focus we have on different senses. Naturally, subconsciously, we are all sorting information gathered by different senses. This creates a hierarchy between our senses and the information gathered by them. How does this subconscious selection change our perception? This is the theme which will be explored in this essay, summed up in finding the answer to the question;

Do we make a different interpretation of public space if we have the same focus on every sense as our instant natural interpretation with all senses active?

## 1.3 Methodology

The investigation is separated into three sequences. In the first part, the group is subdivided into a team of four people (the Sensors) and the fifth person (the Brain). The Sensors are attributed four of the five senses. The sense of taste is disregarded because of its non-use in the urban environment. Then, the Sensors choose a public space to experience during a given time frame. In this space, each Sensor is given the task to analyse it using only their attributed sense as a tool of perception. So as to be as objective as possible, other means of perception are masked as well as possible with headphones, blindfolds, nose-blockers and gloves. After the experiment, each Sensor writes down what is perceived. Pictures and recordings are taken as well.

The second stage of the experiment starts by forwarding only the texts to the fifth person (the "Brain") in order for him to create a mental image of the space, which he transcribes afterwards in an actual physical representation: a drawing.

The final part consists of revealing the site to the Brain, comparing and analysing the similarities and differences between the drawing and the real space.



## 2. Material

### 2.1 Senses

The interpretation of the surroundings depend on the information given by our senses. The information collected from our vision and hearing are capable of yielding percept representing objects or events in the so called “far space” whereas the information collected from touch and smell add the information on the so called “near space”<sup>1</sup>.

#### 2.1.1 Interpretation of the Far Space

In the advanced society we live in today, vision is ranked the highest of the senses. Starting in the development of the printing press with written words and drawn maps, technical evolution has only intensified the importance of our ability to see and separated our senses further<sup>2</sup>. According to this, we design space, seeking to please the sight with beautiful architecture, which as a result, makes the other senses less and less prioritized.<sup>3</sup>

One could say that sight gives us a very clinical perception of a space. It gives us a sense of distance and makes an objective observation of forms and colours in our surroundings while the other senses add more to the sensation of it.

Hearing is the second of the two senses that are able to collect information of the far space. This is a sense giving another dimension to our perception of places. Hearing allows us to understand actions around us in different layers, since humans can perceive a spectrum from low base to high pitch sounds and can detect the origin of the sounds due to the position of the ears. It is the second most prioritized sense in architecture, since it quickly gives us a feeling about a space.<sup>4</sup>

#### 2.1.2 Interpretation of the Near Space

The three senses, smell, taste and touch, which gives us information of the near space are considered to have a private function<sup>5</sup>. These senses can, in contrast to hearing and vision, only provide information of the instant surroundings, the smells which are led through the air right towards us, the feel of the sun on us or the materials right next to us or the taste in our mouths.

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<sup>1</sup>[http://www.academia.edu/2460561/The\\_contribution\\_of\\_the\\_five\\_human\\_senses\\_towards\\_the\\_perception\\_of\\_space\\_by\\_Panagiotis\\_Hadjiphilippou](http://www.academia.edu/2460561/The_contribution_of_the_five_human_senses_towards_the_perception_of_space_by_Panagiotis_Hadjiphilippou) p.2

<sup>2</sup>[https://books.google.ch/books?id=Lykl\\_5DXwuwC&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](https://books.google.ch/books?id=Lykl_5DXwuwC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false) p.20

<sup>3</sup>[http://www.academia.edu/2460561/The\\_contribution\\_of\\_the\\_five\\_human\\_senses\\_towards\\_the\\_perception\\_of\\_space\\_by\\_Panagiotis\\_Hadjiphilippou](http://www.academia.edu/2460561/The_contribution_of_the_five_human_senses_towards_the_perception_of_space_by_Panagiotis_Hadjiphilippou) p.3

<sup>4</sup> Kleiner, Mendel. p.5

<sup>5</sup>[http://www.academia.edu/2460561/The\\_contribution\\_of\\_the\\_five\\_human\\_senses\\_towards\\_the\\_perception\\_of\\_space\\_by\\_Panagiotis\\_Hadjiphilippou](http://www.academia.edu/2460561/The_contribution_of_the_five_human_senses_towards_the_perception_of_space_by_Panagiotis_Hadjiphilippou) p.3

When vision was regarded as the highest of the senses, touch was generally ranked as the lowest<sup>6</sup>. In contrast to vision the touch is “the sense of nearness, intimacy and affection” and feels instead of investigating and approaches instead of observing. Touch provides information of texture and temperature by the feel of the skin but also the weight and density. In combination with vision, touch is the sense which gives us the three-dimensional information of material things. In addition to this, the skin can also sense the lightness of a room or feel the sun light<sup>7</sup>.

Touch adds to our instant visual interpretation and gives it more depth. By touching we can experience a material and understand it better than just by the sight of it. With touch, materials which all look the same may be different in hardness, depth and temperature may be different than what you expect<sup>8</sup>.

“The nose makes the eyes remember”. Historically in a very different urban environment the smell could be used as means of navigation<sup>9</sup>. Nowadays the smell is seen more as an associative sense. A sense used to capture the memory of a place. One particular smell can make us come back to a place in our minds which we may have forgotten. Our nose can smell over ten thousand different scents and since it is impossible to name them all we associate smells with places and situations. The image of a place can be awoken by our nostrils and one specific scent. Smell may also be used to become aware of where you are.<sup>10</sup>

## 2.2 Interpretation of the Space

Our wandering in Lausanne brought us to experiment the urban space. The following texts are the recollections of the Sensors.

### 2.2.1 Touch

Arriving on the spot I felt an ice-cold, smooth and round bar in my hand. Along it were some rough spots. It felt solid, safe and guided me down the regular steps going down under my feet. I knew I was entering somewhere more private. Walking around, my steps were easier as the ground was flat and regular. Sometimes I felt crackling leaves under my feet. I was free to go wherever I wanted, in the open. My hand encountered some hard, cold and rough material. Touching it I discovered that it was some kind of a thick wall, waist-high. This felt protecting as I couldn't go further, in what seemed to be void. I followed it. Then, I stopped and sit on a smooth and comfortable surface. The form was adapted to my body which was welcoming. Going further I stopped again. I took something thin, cold, light and flexible in my hand. It seemed to be a chair. Sitting, it felt unstable and fragile but it

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<sup>6</sup>[https://books.google.ch/books?id=Lykl\\_5DXwuwC&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](https://books.google.ch/books?id=Lykl_5DXwuwC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false) p.15

<sup>7</sup>[http://www.academia.edu/2460561/The\\_contribution\\_of\\_the\\_five\\_human\\_senses\\_towards\\_the\\_perception\\_of\\_space\\_by\\_Panagiotis\\_Hadjiphilippou](http://www.academia.edu/2460561/The_contribution_of_the_five_human_senses_towards_the_perception_of_space_by_Panagiotis_Hadjiphilippou) p.5

<sup>8</sup>[http://www.academia.edu/2460561/The\\_contribution\\_of\\_the\\_five\\_human\\_senses\\_towards\\_the\\_perception\\_of\\_space\\_by\\_Panagiotis\\_Hadjiphilippou](http://www.academia.edu/2460561/The_contribution_of_the_five_human_senses_towards_the_perception_of_space_by_Panagiotis_Hadjiphilippou) p.5

<sup>9</sup>[https://books.google.ch/books?id=Lykl\\_5DXwuwC&printsec=frontcover&source=gbs\\_ge\\_summary\\_r&cad=0#v=onepage&q&f=false](https://books.google.ch/books?id=Lykl_5DXwuwC&printsec=frontcover&source=gbs_ge_summary_r&cad=0#v=onepage&q&f=false) p.15

<sup>10</sup>[http://www.academia.edu/2460561/The\\_contribution\\_of\\_the\\_five\\_human\\_senses\\_towards\\_the\\_perception\\_of\\_space\\_by\\_Panagiotis\\_Hadjiphilippou](http://www.academia.edu/2460561/The_contribution_of_the_five_human_senses_towards_the_perception_of_space_by_Panagiotis_Hadjiphilippou) P.14

was quite comfortable. The best was this hot, smooth and round thing, against my hands. It was really nice, warming me up in spite on the chilly wind I felt on my face.

### 2.2.2 Hearing

On one side there is a constant flow of traffic noises. Motors murmuring, accelerating and whistling sounds of old breaks. A motorcycle passes by on the other side, closer, louder. The traffic sound on either side creates a kind of corridor of silence where other sounds can be distinguished. When the traffic sound reduces from time to time you can hear something making a banging sound. Metal hits metal. Squeaking. Ambulance sirens far away are interrupting the birds' twitter. Monotone traffic sound. Only a few footsteps can be heard close by. Constant traffic noise. A hissing sound followed by an engine's dark, heavy, murmuring sound. Something light is scratching towards the ground creating a light sound which is coming closer and closer. Squeaking breaks. The cracking sounds of a bird travels over you. Close clinking sounds. A few happy voices at a distance. Murmuring engines. The sound of the sudden shut of a car door is followed by two voices, one dark and one lighter, speaking, arguing. Traffic. Birds.

### 2.2.3 Smell

The crisp, cool morning air was about. Walking around the space for the first time, you could gather different smells, sometimes warm breakfast, sometimes the smell of cars and their pollution. There was a bit of wind, bringing various smells from the surroundings (cars, cooking, bread, leaves). Positioned somewhat randomly around the site, were aromatic plants. However, in order to be able to smell them, one had to pinch the leaves in order for them to release their fragrant oils. Sometimes the scent of fried potatoes and cooking with garlic would fill the space, quite punctually. There was a general autumn feeling, dead leaves in the cold, mixed with the smell of the cup of tea. Occasionally, there was a very weak and brief smell of cigarette smoke. The wind brought a mix of floral fragrances, cooking and pollution. Leaning on the edge of the barrier, I could smell something clean, laundry like. The fragrant experience of the space was as much a time felt experience, with different smells coming and going while time moved on, as a spatial experience. Indeed, the different sources and strength of the smells help the perceiver to draft an imaginary perspective and sense of space.

### 2.2.4 Vision

I can see three main motifs, separated symmetrically by a strong limit in the shape of a stone balustrade in the middle. One motive on each side of the balustrade, and the third motive right in front of me.

The first motif, on the right side of this balustrade, is an empty and calm square. It has four corners and asphalt paving. One short end meets the balustrade, whilst the other one transforms into a stone staircase with 4-5 steps. The two long sides are different from each other. One meets directly a small building, but I don't see that façade very well since I sit in line with it. The other long side of the square ends in a line of planted bushes. Leaning against them, there are packed up tables and chairs

in red. Behind them, there are light bulbs in different colors decorating the small trees. Next to this, in the corner that meets the staircase, there is an old Vespa parked. It is red and looks as if it has been used for many years, with a box on the back. With their back against the bushes, between the balustrade and the packed up tables, there are two green benches. The bushes stretch from the staircase in the periphery to the balustrade in the middle, but behind them there are old houses in soft, dirty colors of yellow, orange and beige. The orange is the biggest of them, with green window frames and black shutters. All the houses are connected somehow, and have these long old-fashioned chimneys in stone. I see a blue door on the small yellow house, with light bulbs in white decorating the way up to it. This is also close to the other light bulbs decorating the trees. I see flowerpots with green flowers that you notices since everything else is colored by autumn, but there are no people here.

On the other side of the balustrade we have the second motif, dropping down 10-15m, to an open space with a lot of traffic. There is a big triangular square down there, with all edges meeting roads which all have traffic in both directions. There are things happening here, mostly a lot of traffic but also some pedestrians and bicyclists crossing different roads. Two of the roads that frame this triangle start from one singular road that stretches in under where I'm sitting, high up on the balustrade. The last road connects with the side of the triangle that is the furthest away, a road I cannot see that well because of trees. The road that stretches from under me up to the right has the triangle on the left side, and houses on the right side. There is a restaurant with some tables outside, and a lonely woman having a drink with her back against the wall. Between the houses and the road there are tightly parked cars, front against back, and some Vespa's just in front of the woman. One house the furthest away on this street is under reparation, and has scaffolding on the façade. Behind this the road disappears up and away. The road that stretches from under me to the left has the triangle on the right side, and a parking lot on the left side, totally jammed with cars. There are red lights in the corner of the triangle where this road meets the third road the furthest away. The inside of the triangle is as good as empty, with only a few elements that constitute the place. It looks like a construction site, enclosed by white tarpaulins, with a red container, some machines and some wooden planks inside. Also, there are a few cars, but otherwise it's empty. If I look up over this big space of asphalt and cars, I see houses far away surrounding my view on all different levels. They make the horizon and end in a blue/grey sky. The houses are in different colors, varying from white to beige to yellow to green. Blending in with all the houses there are trees in all colors of late autumn.

The last motif is the one that is straight in front of me, behind the old houses placed along the side of the small square on my right. It is a big building with four levels and an attic, all made of stone. The façade of the ground floor is grey, whilst the rest of the façade has a slightly greener color. It is a symmetric building, with a big staircase stretching up from the asphalt paving in front of it, to the first floor. The staircase is split in two, turning 90 degrees from the door it leads up to, and the two staircases follows the façade in two different directions. In the middle, high up just under the roof, there is also a big clock decorating the façade. There are big windows with orange bricks in an arc over each and every one. Inside in some of them, you can see decorative cut pieces of paper in different colors. The building is placed on this platform that drops down behind the buildings on the edge of the big space on my left.

These three motifs are all very different: the small square is empty, calm and cozy, the big open space is occupied by a lot of traffic in all directions, and the big house is empty and deserted.

### 3. Results

The interpretation of the brain was made in two steps. The first step consisted of reading each text separately and interpret them. The second step was to translate these interpretations into one representation, an illustration.

All the texts were describing the environment in completely different ways.

In the text describing the touch, we could see that there was a strict perception of the place through the different materials around, their temperature or their size and shape. An interesting stand-out was also what couldn't be reached, a touchless environment implied the sensation of an "open space" or a "void". This can be compared to a foggy day: your perception stops at the limit of what your body can reach.

The description of the space gives more a general feeling than a physical sensation. The "cold wind" against the skin, the "icy feeling" against different things, the "cracking leaves" under the feet and the absence of any surrounding except on one side gives a vulnerable space "not welcoming, cold, and between winter and autumn".

The text about the sounds worked as a description of an ambience. The amount of incoming sounds and the sequences at first seemed to provoke a confusion in the perception of the surroundings. The description then narrows it down to a more homogeneous frame that surrounds the sensor. This homogeneity takes the form of a shell or a "corridor" that separates a portion of the city from the direct surrounding. The distant sounds recall the situation of the sense once in a while and allow recognition not about the context in general but more on what is happening at the moment. The text at the end turns into a list of the different sound composing the concert of the city.

The nose seemed to be the most complicated sense to describe. At first it seemed difficult to distinguish separate smells and only the strongest and most unusual smells stood out. After a while more and more smells were distinguished. An interesting step was the interaction with another sense, the touch. By touching different elements, it gave away a new or different fragrance.

As the others senses, the smell allowed to perceive some elements that gave details about the time of the day and of the year. Smelling "breakfast", "bread", "fresh air" or even "laundry" specifies more what's happening during this time. A specification of the smell is that the scent of anything can be brought by the wind.

The description of the sight was the most detailed due to the amount of characteristics given, the shapes, the colors or the textures of different objects. The most outstanding element in this text was the hierarchy chosen to describe the details. Some small elements were described more thoroughly than big ones, even if they were positioned far away. It was impossible to get all the details of the elements on site. It is surprising that seemingly important elements are not mentioned because one is too used to them.

## 4. Analysis

### 4.1 Discussion

The aim was to gather the texts and create a representation of the site. By studying the texts together, one notices that some elements were additive; they became a “complete” list of all the elements that were present. Some of them were complementary; they allowed getting a completion of details like the right position, size, color, type etc.

And some of them were contradictory; a touchless space feels "open and big". A noise surrounded space feels more like a closed space delimited by a frame that distinguishes the spot from the city.

This experiment had a few limiting factors. The most important one was the fact that four different people with completely different backgrounds were each assigned a sense. We can only imagine the results that could have been if the senses were assigned differently or to a complete different group of people, for that matter.

The next limitation was the way information was transferred during the communication process between the Sensors and the Brain. Texts were interpreted by the Brain for him to recreate the space. However, from what the Sensor experiences to the mental image made by the Brain to the actual drawing, there are several levels of loss of information. Indeed, if it was possible for the Brain to experience the space with each sense, without having any interaction with the others, it would defeat the purpose of the chosen methodology. In order to improve the method, one can imagine an increase of the number of Sensors so that the gathered information is less personal.

Another factor that could cloud the Brains' perception is that the representation of the mental image he built was predefined as a drawing. If the choice of representation had been left free to the Brain, the results could have been different.

One can also assume that the sense of taste is missing in the experience but as it was mentioned in the methodology, it is not usable in the urban environment.

## 4.2 Conclusion

As *Amos Rapoport and Ron Hawkes* say in “The perception of urban complexity”, a key to have a good perception of urban space is to have the right amount of information. If there is not enough information of different elements, the brain will be less likely to notice them. In the opposite, an excess of details creates an overload of information in the brain and makes it unable to distinguish the elements forming the space. In the case of Las Vegas strips from *Robert Venturi*, the overload of information is used to create mind confusion. The aim is to make them lose their landmarks in order to consider the city of Las Vegas as a space apart from the world where time, dimensions and values become relative.

Dividing the four senses grants an equal focus on each perception channel. It then overtakes the latent inhibitor filter. In other words, the brain puts more consideration on parts that are usually denied by itself and tries to associate them to get a better understanding on the inputs.

Another standing out element is the predictable measure of elements. If one hears something that he is used to, he will be less likely to notice it. In these texts, as every way of expressing the environment was completely different, each sense input was considered as important. Having an experience of the city presupposes a number of predictions. It is useful to avoid having to pay attention to each element but prevents noticing small changes or things that can be more important or meaningful than it seems.

All these clues generated were expected to give a description of the place. More than that, we got a perception on the direct environment, the global surrounding, the time of the day/ of the year the ambience, the atmosphere etc.

More basically, getting the environment through one sense gives a sporadic representation. Adding different senses then allows being more precise about the surrounding. In the end, paying attention on small details that would be avoided by the brain, allows to get more information beyond the static perception and to be able to place the experience in the stream that is urbanity.

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### Videos:

Remix your city, <https://vimeo.com/85921884>



## 6. Annexes









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