

Phenomenological Properties of Perceptual Presence
Supplementary Materials C: The Annotated Codebook

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1. Introduction

The Supplementary Materials C (SM-C) present the *annotated codebook*, a combination of a saturation grid and a codebook. This is a rigorous approach for ensuring that we have reached conceptual depth of our data, reflecting both the process of data acquisition and analysis (Nelson 2017; Kerr, Nixon & Wild 2010). Further, it provides independent research groups with an instrument, with which they may replicate our findings. Finally, the codebook is an instrument with which we organized our data. Through the process of *relational coding* (Flick 2009), we established meaningful relationships between experiential categories. These relationships form the basis of the orders of coding in the codebook.

These supplementary materials are organized as follows: first, we present the saturation grids for each phase of the study. We evaluate the data for conceptual depth purely on the basis of their frequency of occurrence (i.e., whether a given category is a) intersubjective; and b) method-invariant). Second, we present the codebook. In the codebook, the categories are introduced in detail, including their definitions, examples, as well as specific considerations regarding their descriptive structure. In the third section, we present a quantitative overview of the data. The goal of this study was defining the boundary conditions of perceptual presence, rather than making quantitative statements about them. Nonetheless, numerical properties may be of interest to some readers. Finally, we present salient experiential categories that emerged in the raw data that were not carried forward in the analysis. We provide definitions and examples for the categories as well as our justification for their exclusion.

2. Saturation grid

The present section includes the *saturation grid*. In qualitative research, a saturation grid is a method of ensuring *conceptual depth*, the point at which we have gathered enough data as to make recruitment of further co-researchers counter-productive (or at the very least unnecessary) (Fusch & Ness 2015; O'Reilly & Parker 2013). Saturation grid refers to a tabulation in which the columns denote specific interviews (or in our case participants), and the rows denote specific induced categories. Cells at their cross-section refer to co-researchers in which we have observed a given category for the first time (Nelson, 2017; Kerr, Nixon & Wild, 2010).

In our case, we have included two amendments to the saturation grid. First, we included the second occurrence of a given experiential category. The reason for this is that in our final analysis, we only included those aspects of experience that can be observed to be stable across individuals. The ■ symbol represents the first occurrence of a given category. The □ symbol represents the second occurrence of a given category.

The second amendment was that we evaluated for conceptual depth in a specific order. We did not evaluate the data in order of analysis. Rather, we arranged participants according to their level of suggestibility, from the least to the most suggestible individuals (based on their SWASH scores).

We constructed a separate saturation grid for each individual phase of the study, although the conceptual depth is evaluated on the level of the entire study.

In the following, we first present saturation grids for each phase of the study. Then, in the following subsection, we consider the status of validity of each experiential category based on the number of occurrences.

	PPPP-I-06	PPPP-I-05	PPPP-I-10	PPPP-I-09	PPPP-I-01	PPPP-I-12	PPPP-I-02
<i>Localized solidity of thought</i>	■	□					
<i>Localized permeance of thought</i>							
<i>Localized solidity of space</i>	■		□				
<i>Localized permeance of space</i>			■			□	
<i>Localized solidity of object</i>	■	□					
<i>Generalized permeance of thought</i>							
<i>Generalized solidity of space</i>			■	□			
<i>Generalized permeance of space</i>						■	
<i>Generalized solidity of object</i>		■				□	
<i>Resonance</i>							■
<i>Dissonance</i>		■	□				

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<i>Affordance</i>	■	□					
<i>Obduracy</i>	■	□					
<i>Fractal structure of detail</i>	■	□					
<i>Autobiographic</i>	■			□			
<i>Animistic</i>		■				□	
<i>Temporal</i>							
<i>Intuitive</i>	■	□					
<i>Localized permeance of object</i>						■	□
<i>Geometric</i>			■				□
<i>Dynamic</i>	■						□
<i>Rationalist</i>	■	□					
Number of new codes within the phase	10	4	3	0	0	2	1
Number of new codes within the study	10	4	3	0	0	2	1

Table 1. Saturation grid for PPPP-I

	PPPP-II-03	PPPP-II-08	PPPP-II-09	PPPP-II-06	PPPP-II-07	PPPP-II-01	PPPP-II-04
<i>Localized solidity of thought</i>	■			□			
<i>Localized permeance of thought</i>	■		□				
<i>Localized solidity of space</i>		■	□				
<i>Localized permeance of space</i>						■	
<i>Localized solidity of object</i>		■	□				
<i>Generalized permeance of thought</i>	■	□					
<i>Generalized solidity of space</i>							■
<i>Generalized permeance of space</i>						■	□
<i>Generalized solidity of object</i>	■		□				
<i>Resonance</i>	■	□					
<i>Dissonance</i>	■	□					
<i>Affordance</i>						■	□
<i>Obduracy</i>						■	□
<i>Fractal structure of detail</i>	■	□					
<i>Autobiographic</i>	■	□					
<i>Animistic</i>			■				
<i>Temporal</i>	■	□					
<i>Intuitive</i>	■						
<i>Localized permeance of object</i>							
<i>Geometric</i>							
<i>Dynamic</i>							
<i>Rationalist</i>	■					□	
Number of new codes within the phase	11	2	1	0	0	4	1
Number of new codes within the study	3	0	0	0	0	0	0

Table 2. Saturation grid for PPPP-II

	PPPP-III-02	PPPP-III-06	PPPP-III-01	PPPP-III-08	PPPP-III-04	PPPP-III-07
<i>Localized solidity of thought</i>			■	□		
<i>Localized permeance of thought</i>						
<i>Localized solidity of space</i>	■	□				
<i>Localized permeance of space</i>	■	□				
<i>Localized solidity of object</i>	■	□				
<i>Generalized permeance of thought</i>						
<i>Generalized solidity of space</i>		■	□			
<i>Generalized permeance of space</i>						
<i>Generalized solidity of object</i>	■					
<i>Resonance</i>	■	□				
<i>Dissonance</i>	■				□	
<i>Affordance</i>			■	□		
<i>Obduracy</i>	■			□		
<i>Fractal structure of detail</i>	■	□				
<i>Autobiographic</i>	■			□		
<i>Animistic</i>	■		□			
<i>Temporal</i>	■	□				
<i>Intuitive</i>		■				
<i>Localized permeance of object</i>	■				□	
<i>Geometric</i>	■	□				
<i>Dynamic</i>	■	□				
<i>Rationalist</i>		■				
Number of new codes within the phase	14	3	2	0	0	0
Number of new codes within the study	0	0	0	0	0	0

Table 3. Saturation grid for PPPP-III

Based on the saturation grid approach, we have reached conceptual depth with the least suggestible participant of PPPP-II. No new categories were induced in subsequent interviews.

2.1. Validity of categories

In this subsection, we provide an overview of the degree of validity of each experiential category. Based on their frequency of occurrence, the categories could be assigned the following tags:

- Intersubjective: Within a given phase of the study, the category was observed in two or more participants;
- Idiosyncratic: Within a given phase of the study, the category was observed only in one participant;
- Method-invariant: The category appears in all three phases of the study;
- Method-variant: The category appears in two phases of the study;
- Method-dependent: The category only appears in one phase of the study.

Below, we provide an overview of the degree of validity of each category.

The category *localized solidity of thought* is intersubjective and method-invariant. The category *localized permeance of thought* is method-variant (it is intersubjectively present only in PPPP-II). The category *localized solidity of space* is intersubjective and method-invariant. The category *localized permeance of space* is method-invariant; in PPPP-II, it is idiosyncratic. The category *localized solidity of object* is intersubjective and method-invariant. The category *localized permeance of object* is method-dependent (it is not present in PPPP-II). It is

intersubjective in PPPP-I and PPPP-III. The category *generalized permeance of thought* is method-dependent; it only appears intersubjectively in PPPP-II. The category *generalized solidity of space* is method-invariant; it is intersubjective in PPPP-I and PPPP-III, and it is idiosyncratic in PPPP-II. The category *generalized permeance of space* is method-variant (it is not present in PPPP-III). In PPPP-I, it is intersubjective; it is idiosyncratic in PPPP-II. The category *generalized solidity of objects* is method-invariant. It is intersubjective in PPPP-I, and idiosyncratic in PPPP-II and PPPP-III.

The category *resonance* is method-invariant. It is idiosyncratic in PPPP-I, and intersubjective in PPPP-II and PPPP-III. The category *dissonance* is intersubjective and method-invariant.

The category *affordance* is intersubjective and method-invariant. The category *obduracy* is intersubjective and method-invariant.

The category *fractal structure of detail* is intersubjective and method-invariant.

The category *autobiographic associative presence* is intersubjective and method-invariant. The category *animistic associative presence* is method-invariant. It is intersubjective in PPPP-I and PPPP-III; it is idiosyncratic in PPPP-II. The category *temporal associative presence* is method-variant (it is not present in PPPP-I). It is intersubjective in PPPP-II and PPPP-III. The category *intuitive associative presence* is method-invariant. It is intersubjective in PPPP-I. It is idiosyncratic in PPPP-II and PPPP-III. The category *geometric associative presence* is method-dependent (it is not present in PPPP-II). It is intersubjective in PPPP-I and PPPP-II. The category *dynamic associative presence* is method-dependent (it is not present in PPPP-II). It is intersubjective in PPPP-I and PPPP-II. The category *rationalist associative presence* is method-invariant. It is intersubjective in PPPP-I and PPPP-II, and it is idiosyncratic in PPPP-III.

The degrees of validity of each category are summarized in Table 4.

Experiential category	Status in PPPP-I	Status in PPPP-II	Status in PPPP-III	Validity
<i>Localized solidity of thought</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Localized permeance of thought</i>	Method-dependent (not present in PPPP-I)	Intersubjective in PPPP-II	Method-dependent (not present in PPPP-III)	Invalid
<i>Localized solidity of space</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Localized permeance of space</i>	Intersubjective in PPPP-I	Idiosyncratic in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Localized solidity of object</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Localized permeance of object</i>	Intersubjective in PPPP-I	Method-variant (not present in PPPP-II)	Intersubjective in PPPP-III	Valid
<i>Generalized permeance of thought</i>	Method-dependent (not present in PPPP-I)	Intersubjective in PPPP-II	Method-dependent (not present in PPPP-I)	Invalid
<i>Generalized solidity of space</i>	Intersubjective in PPPP-II	Idiosyncratic in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Generalized permeance of space</i>	Intersubjective in PPPP-II	Idiosyncratic in PPPP-II	Method-variant (not present in PPPP-III)	Valid
<i>Generalized solidity of object</i>	Intersubjective in PPPP-II	Idiosyncratic in PPPP-II	Idiosyncratic in PPPP-III	Valid
<i>Resonance</i>	Idiosyncratic in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Dissonance</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Affordance</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Obduracy</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Fractal structure of detail</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Autobiographic</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Valid
<i>Animistic</i>	Intersubjective in PPPP-I	Idiosyncratic in PPPP-II	Intersubjective in PPPP-III	Valid

<i>Temporal</i>	Method-variant (not present in PPPP-I)	Intersubjective in PPPP-II	Intersubjective in PPPP-III	Invalid
<i>Intuitive</i>	Intersubjective in PPPP-I	Idiosyncratic in PPPP-II	Idiosyncratic in PPPP-III	Valid
<i>Geometric</i>	Intersubjective in PPPP-I	Method-variant (not present in PPPP-II)	Intersubjective in PPPP-III	Invalid
<i>Dynamic</i>	Intersubjective in PPPP-I	Method-variant (not present in PPPP-II)	Intersubjective in PPPP-III	Invalid
<i>Rationalist</i>	Intersubjective in PPPP-I	Intersubjective in PPPP-II	Idiosyncratic in PPPP-III	Valid

Table 4. Summary of the degree of validity of each category

We consider the categories *temporal associative presence*, *geometric associative presence*, and *dynamic associative presence* invalid as they appear to be method-variant. We consider some of the categories associated with the *structure of lived space* (*localized permeance of space*, *generalized solidity of space*, *generalized permeance of space*, and *generalized solidity of object*) as valid, despite being method-variant, as they represent differences of degree rather than type. The category *localized permeance of thought* – as is more closely elaborated in the entry on *localized solidity of thought* – is considered invalid as it amounts to a speculative category that has been very rarely observed.

3. Codebook

The present codebook is structured in line with similar phenomenological studies (Hurlburt & Heavey 2006; Kordeš et al. 2019; Oblak 2020; Schwartzman et al. 2020) Entries are defined according to the following five elements:

- a) Name of the category;
- b) Description of the category;
- c) Subcategories;
- d) Salient examples;
- e) Considerations (optional).

We provide a number of salient examples from all three studies. Occasionally, some of the categories include fewer examples, as their descriptions were obtained through lengthy exchanges and a simple reference to individual utterances does not do the categories justice. Under *considerations*, we note particularly interesting or problematic aspects of a given category. Most notably, we specify specific differences between a given category and other similar, but distinct categories.

Figure 1 provides an outline of the valid categories constructed during this study. Experiential categories are organized into five levels of coding. Lowest levels represent the lowest degree of abstraction for the data. For example, the experiential category *solidity* is thus named because this was the most commonly used term for participants to described their experience. Higher levels of coding represent a higher level of abstraction; that is, moving away from concrete data towards more general categories. The direction of abstraction is represented in Figure 1 by the direction of the arrow. At higher levels, the precise nature of categories becomes less dependent on the insights from raw data, and some groupings stem from deference to extant literature as well.

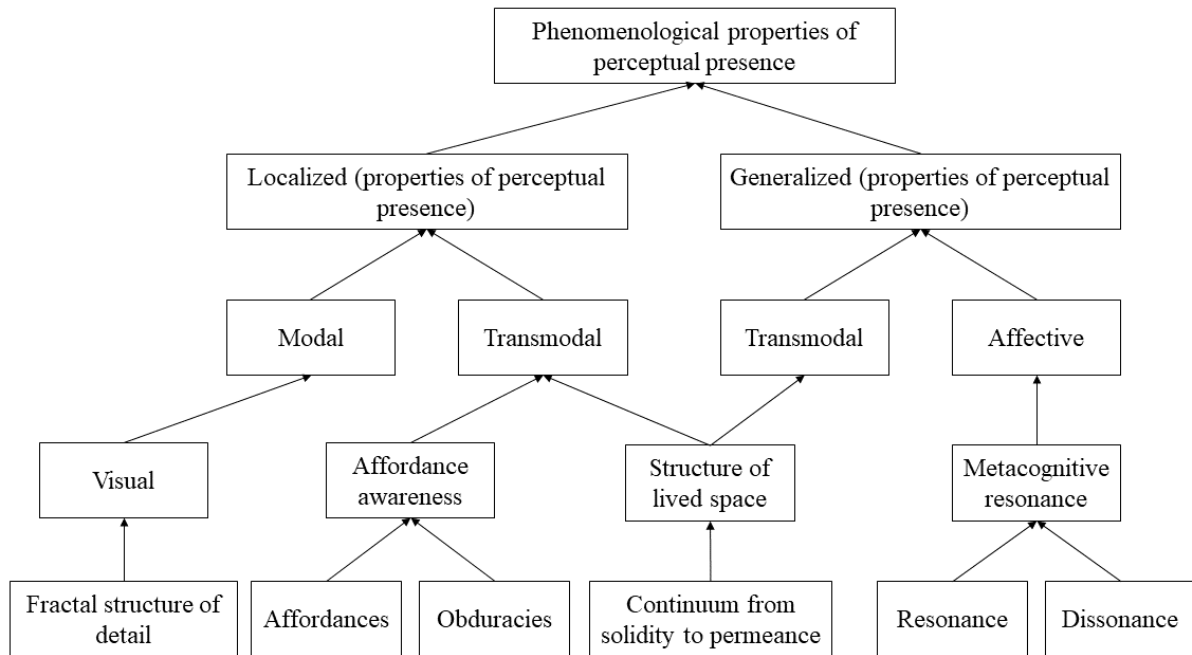


Figure 1. Schematic depiction of experiential categories.

Phenomenological properties of perceptual presence

Description: *Phenomenological properties of perceptual presence* is the central aspect of experience that was investigated in this study. Specifically, we were interested in what has been termed *object-active inferences*, i.e., properties, as they are uncovered in experience, of objects of perception upon which individuals would ground their belief that the objects are subjectively veridical. In this way, we are not focusing on gestures and mental acts whereby individuals may manipulate how objects are present to their consciousness. Rather, we are interested in the properties exhibited by the objects prior to any gestures being performed on them. Sometimes (e.g., *fractal structure of experience*) these two poles (i.e., agent- versus object-active inferences) cannot be clearly distinguished. In such cases, references to mental gestures are made as well.

Subcategories:

Localized (properties of perceptual presence)

Generalized (properties of perceptual presence)

Examples:

[The apple] absolutely exists. This is the first time when I can say without any philosophical queries that it does exist. Absolutely yes. [...] It is about how it appears to me. In this way that we investigated before. With these pathetic images that are just full of gists and require some whipping to become developed. They require work. They are full of ambiguity. But here, [the apple] appears in all of its dimensions from the very beginning. Well, not all of them. But it is present in a special sort of way. It is not different from its surroundings. It is at the same level as the surroundings. The pear from the first session was not on the same level and was not as real as the surrounding. In the sense, that it was not part of the physical world. But the apple is. There is something about the apple that gives this stand-out-ish, present style. Same as this pencil. And if I touch it with my attention, it is not as sensitive. It is not as malleable. My attention does not really interact with it. I can extend my attention towards it and I can feel it. I can imagine how it looks. But it is not as squishy as various images with which I have to be very careful, because attending to them can change them. Whereas this apple cannot be changed by attention. (PPPP-I-06-03)

Digital reality would be a new, Z-axis. [pause] In a way, digital reality is closer to the physical than the imaginary. But it is not closer to either, because they are radically different things. [...] So, the imaginary is a dimension of its own. And physical reality, digital reality, and the sky, are all kind of similar to each other. More similar than to the imaginary stuff. But the categories themselves are distinct from each other. They are more different from each other than the objects within the categories. By how real they feel. So, I would say that the sky is a weird, special, limiting case of physical reality. Because it is similar to

physical objects in terms of its realness, but it is a very weird physical object for which a whole bunch of stuff doesn't apply. Really, a lot of stuff! Certain things that apply for physical objects. And digital reality, again, is a weird category of its own. (PPPP-I-06-06)

Localized (phenomenological properties of perceptual presence)

Description: *Localized (phenomenological properties of perceptual presence)* refers to aspects of experience whereby observer's attention is narrowed to encompass a single object. The object itself is not objectively defined. Rather, the object here refers to elements of perceptual field that are brought to the foreground of one's experience as a single object.

Subcategories:

Modal;

Transmodal.

Modal (phenomenological properties of perceptual presence)

Description: *Modal (phenomenological properties of perceptual presence)* refer to aspects of experience in which an individual might ground their belief that an object of their perception is veridical that are present to their consciousness in an isolated sensory modality (e.g., sight, hearing, touch, taste, etc.). For the sake of simplicity, as well as because the stimuli that were manipulated in the study were chosen based on their visual properties, we focus on sight. However, as can be seen in the *considerations* section of the *fractal structure of detail* entry, a similar experiential dynamic was observed in the auditory and tactile modality.

Subcategories:

Visual;

Haptic (theoretical);

Auditory (theoretical).

Visual (phenomenological properties of perceptual presence)

Description:

Visual (phenomenological properties of perceptual presence) refer to aspects of experience that are present to their consciousness in the visual mode, and in which an individual might ground their belief that an object of their perception is veridical. Vision has been described by our participants as the part of their sensory field that opens towards the world in the section of their experiential field that is located in their forefront. From this field, incoming sensory experience has particularly visual characteristics (e.g., color, luminance, etc.).

Subcategories:

Fractal structure of detail

Fractal structure of detail

Definition: Objects of awareness that are judged to be perceptually present have, in experience, the property that they possess fractal structure of visual detail. By this it is meant that the object appears inexhaustible in the observer's awareness. No matter how long she observes the object, there is always new detail that can be discerned, either by paying closer attention to the details, or changing the focal point. By contrast, objects that are judged not to be perceptually present (e.g., imaginary objects) appear to have a limited amount of detail that is available. Most notably, mental imagery has a finite level of detail inherent in it. For further details about the object of awareness to become apparent, the individual has to reconstruct the object, rather than observe it in more detail.

Examples:

PPPP-I

Mental imagery: [The pear] just kind of [pauses] floats. It is not embedded in anything. There's nothing else. It was just this pear. And perhaps a hint of the surroundings. I remember its color, [...] It is [pauses]

a picture that is not [clicks tongue], well, on the one hand it is sharp; on the other, it isn't. I don't know. I feel as if I can see it in my head better than afterwards, when I want to draw it. When I start to draw, I lack certain information. But in my head, I see all of its pear-ness. I don't know [pause]. There is shiny meat inside. I can see its shell, which is a little bit rough, yellow, with spots. [Pause] And I can zoom into any one thing. I can zoom into an individual part. But the whole is not quite as sharp. [...] I cannot obtain good enough information. [Pauses] I am missing stuff in this vision of mine that I have in the real world. It almost feels as if my vision is more narrow. [...] Everything is located in this moving darkness. [...] I actually don't think I want more information. They don't seem relevant. [...] I can add information. I can make them up. What do I do? If I want to add more information, I just think them into being. I just have to remember them. [Section of non-experiential data removed]. It is a thought to add something. [Pauses] And then soon, it actually starts to appear from this blurriness. [...] [Not having sufficient information] makes me uneasy. Erm [pauses] but it is also a bit calming, because it would be a bit creepy if I could obtain more information [...] It does feel normal. Like, familiar. It doesn't surprise me. But if I wanted more information, it kind of bothers me when I don't get it. As if they are not outlined well enough. They are too changeable. [...] One moment they take one form, and another moment, they are different. That's why I can't trust this information. [...] So, if I imagine the veins inside the pear, I am not sure how they are. And so I imagine them. And then if I imagine them once again, they are organized differently. [...] And even if I just stare at this pear, it somehow lacks constancy. I don't know. It's [pauses, sighs] to an extent, I can see it. [Pauses] If I want the details, it zooms in. But then when I zoom out, it is no longer the same pear. In fact, it is a different image. Once I zoom into it. [...] So, there is no constancy. Every moment, it can be different. It is not as if I can think of something else and then return my thoughts to this pear. The pear would have been different. It is not like when I turn my gaze away from the real pear and then look back at it and it is the same pear. [...] There is somehow fewer information I get from it than from looking. As if the image is disappearing at the edges. The focus is on the pear and it doesn't really have an environment. And it doesn't seem to have breadth. [...] It doesn't have sharp lines. [...] It is as if I didn't build up the environment in my head. And if I think about what's around it, when I close my eyes, I can see this blurry movement. [...] The edges of the pear as not as sharp as if I cut it out of paper and place it in my vision. Everything is soft. And so it seems as if the space is different as well. As if it doesn't actually have space. It's like a vignette coming out of it. With this softness, this out-of-focus-ness. (PPPP-I-01-01)

Subjectively veridical process VS. mental image of the process: It is a mental image. It changes from the visual experience in terms of how pathetic it is. The location of the imagery was to the right. Where the incense was actually lit up before. [...] [The imagery] is beyond my body. As I reflect on it, I am trying to put myself back in that moment, I have to look out to see that it is a memory. Not inward. [A hypothetical removed] In a weird way, I know it is outside. It is more detailed. More stable. So, yeah. Outside. [...] There wasn't a direct awareness of how pathetic it is. But compared to the actual visual experience of observing the smoke, that's how I would describe it. Details popped out more. Everything was less, less blurred, as it is in the periphery. It was undeveloped. An approximate knowledge of what is there without actually having seen it. And further away from that, there was the knowing that there is something there, without me knowing what it is. Looking back, what was essential, what was in the forefront was this smoke. And underneath this smoke there was this knowing that there is the incense stick, rather than me actually seeing the stick. There was a dimension in which the stick was present, but was less detailed. What was present was the knowing that there has to be the stick. And that I would have to – if now, in reflection, I attend to it – then the stick becomes apparent. In normal visual experience, I did not have to pay attention to the stick. There was just this elongated thing in the periphery of my vision. (PPPP-I-06-05)

Subjectively veridical object: When I started to draw, I wanted to encompass the entire shape of the apple with my gaze. So, I looked at where the edges are. [...] I looked at where the actual edges are. I noted that I need to create a thinner sphere there. And then inside of that sphere, I was to draw the image such as it actually is. So, I made the whole shape of the apple. I was observing how it expands at the top, how it goes inside at the bottom. [...] I noted how it hollows inside this dip where the stem is, [...] I was looking for the clearest shapes. To allow me to draw the line. Representing an inward curve. And then I was looking at [pause] everything that I see about the apple, I tried to put inside the drawing. And the apple has these tiny dots on its skin. So, I made the dots. They seem quite prominent. And the apple is kind of wrinkly. It's skin is. [...] They tell me it's not the freshest apple. It's not the most solid. I was looking at how the light makes it a bit more red at one side than another. So, I made dots on the other side as well. They represent the shadow. [...] When I reached the dots and shadows, I was actually [pause] gliding with my mind. Or not gliding. But I landed on ever more details on the apple. [...] The dots are

very nicely distributed in a way. And they give me a very ... they make the apple appear very real. It is so imperfect. There are so many motifs in it. [...] So, I wouldn't say I look at the apple as a whole. I kind of go from dot to dot on various parts of the apple until I reach the bottom. With this narrow cone of attention. Of course, I am aware of the entire surroundings of the apple, but I see that I can land on a single dot, go a little bit higher, and land on another dot. It's extremely detailed. [...] On the other hand, [pause] the fact that it is very real also comes from these details. Because an apple that I might imagine in my mind wouldn't have this level of detail. It has so many nuances and color shifts and some shades are more yellow, other shades are more bland. It has these streaks of color and dried up areas. It has a dry texture. It has a different structure. It is visually too complex to simply be a product of my imagination. The longer I look at it, the more details I see. (PPPP-I-09-01)

PPPP-II

I had the insect on my finger and I looked at it very closely. At the forefront of my awareness was my visual impression of the animal. Especially its light brown color was very present to me and its unexpectedly long legs. I felt a slight surprise. It was a very pleasant feeling in my head and in the upper part of my chest. I felt like it pushed my interest in the animal. [...] I'm seeing my fingers and the insect. The center of my visual field is the insect. I'm focusing on it (with my eyes) and it's very three dimensional (some parts are even shiny). [...] I feel like my mental space is on the insect. My expectation of it being a tick is located on my finger at the insect's location. I visually imagined a tick there, but when I investigated it closer I found a mismatch between my expectation and the reality. I'm creating the expectation but the mismatch is happening to me. [...] It is like something, like, it feels I am doing something physical with my eyes. So, it is actually some power or construction. Is that the word? Yeah, whatever. With my eyes. And it ends up in the visual impression that this insect is very sharp. And the background is very, very blurry. So, it kind of makes this insect distinct from everything else. [...] I experience it as, erm, pulling some sort of tendon. Like, it's a bit like a muscle movement, but in the eye. So, I put some tension in the eye. Or something. And then it works. [...] That is when it becomes more sharp and I would even say more three-dimensional. Only after that do I realize the plasticity of the insect and also that some parts were shiny and all these details. [...] I feel like everything becomes more, more concrete. And more real actually. Like, I feel like this becoming more aware of the details, erm, is responsible for me forgetting my expectation that it was a tick. I felt like before, I focused on the insect, and I was more seeing what I was expecting. So, I was more seeing a tick but it wasn't very clear. And after I focused with my eyes on it, erm, this blurry image of a tick disappears and the actual insect was visible to me. (PPPP-II-01-D05-S01)

[Clicks tongue] Erm, just to give you a little bit of background info: grainlines, just because it is woven thread, they can often be quite off. It is incredibly frustrating, because you want to be on the straight grain in order to have good costumes. Erm, and so it is really important to constantly make sure that your grainline is right. And I make sure that it is right, I make these plaquettes, these sleeves. And it is really important that it is straight, so I was constantly checking with the, it is called the *worf* and the *weft*. So, I was checking the *weft* and then ... and checking my, erm, my drawn line to double check that it is straight and my cutting line, is it on the line. But then also, you can microanalyze the line, because the pencil line is never thin enough, the scissors are never thin enough. And so there is this constant? *is this perfect, is this perfect, will this ever be perfect?* Is this good enough? [...] There is a huge gap in my understanding of the fabric, of how it behaves, and how it wants to behave [...] That I don't know it. I don't know. there is like an emptiness. That is not really explanatory. There is a [pause] like, a desire. Being pulled forward for knowledge. But there is also a sort of irritation. I don't understand that yet. And I often like, erm, verbalize that in my mind. I don't understand that. (PPPP-II-07-D04-S01)

Well, there is a feeling that it is outside of me, while the replaying feels that it is inside. And the, for example, the visual input that I am getting is a lot crisper than the mental image. [...] It's clearer and it is brighter, and there is more detail to it. It's like reality holds all this detail that you don't necessarily need, while the mental image is a bit simplified (PPPP-II-08-D02-S02)

PPPP-III

Fractal structure of detail and curiosity: I was looking at the stream, so my eyes were still on the stream, ahm, and, ahm, I was, so at the very beginning of the experience I was just looking in an open way at the stream, but then, when I started noting things, I was more actively looking for something related to what I already noticed, so, ahm [pause]. Okay, so right before moving I was still looking for something actively about, yeah, all these things that I told you already, something new about that, but then there wasn't anything new from that perspective, ahm, so I was, there was a sense of disappointment as well. Ahm. Which was as a – I mean, a very slight disappointment, of course – which was perceived as a wave in my

chest. Ahm. [pause] and it was related to the movement somehow. Ahm. Yeah, like the movement and it being a bit passive was more related with this disappointment than with whatever “will to explore more” or excitement or whatever. But in general, in the background of this all activity, there was this wanting, ah, or, yeah, ahm [pause] it wasn’t really a strong wanting, I wasn’t forcing myself to do anything. As I said I was just openly observing the stream, as you told me, But then, yeah, it was interesting, no? Ahm, I think that the interest and the, yeah, mainly the interest, which is related with the wanting were in the background in that moment, but I was more, yeah, while they are perceived as more active, I was more in the passive mode, because I was; I think that it was a kind of a shift from a moment to another. Like to, yeah; because I was moving, not really focusing on anything, yeah. (PPPP-III-04-05)

[Clicks tongue] So, the apple is smooth and, in a way, shiny. And there is this irregularity, and also how the light refracts ... I mean, you just somehow expect that it will be a perfectly round and beautiful. And then there are these tiny refractions and reflections of light. They constantly remind you that it is not like that. The apple is not that simple. Because if it were perfectly smooth, the refraction would come in a single bulk. But here there is a bunch of points. Some of them are brighter, some of them are dimmer. [...] As the color refracts, it casts a natural shadow, but the apple has its own color as well. And in darker regions, I have to, in a way, subtract the darkness from the pigmentation. I have to subtract the pigmentation to become aware of the depth. [...] You can discover all of these color gradations, these changing bits of red and green. In a way, it becomes a little bit yellow, a little bit orange. Erm, there are different stripes and dots. Different lines. [generality removed] The indentations of the apple contain its past movements. The apple is bumped. And there is a bit of dried skin. I guess where rain fell on it and the sun burnt it. I can see how it was on the tree. [theorizing removed]. All of this is very interesting. (PPPP-III-06-01)

Necessity of re-constructing a more detailed mental image: I simply [pause] don't attend to [the pear] Before, you know when I say *effort*, I was actively producing the memory or the image of the pear. I think that here, the shift happens where I actively start to maintain the image of the second pear. I think that I would call this *me trying to more actively create the image*. So, I make it clearer. Even if I have to make peace with not being possible to create a lot of details. I think that is why it was easier for me to focus on the yellow pear [the simpler pear]. Precisely because it didn't demand as many details. And it was easier to maintain it such as it is. Without actively creating more details. (PPPP-III-08-01)

Commentary: While the focus here is primarily on the visual modality, the *fractal structure of information* seems to apply to other modalities as well. One participant, for example, reports on the poverty of detail and gustatory experience obtained from the mental imagery of the pear:

Anything I imagine is not as good. There is not enough information. I can imagine music, but it will never feel as if I experience it with my body as well. There are no vibrations, and I don’t actually get anything from it. It is not as good. I can imagine the taste of the pear, but it will not be as good as if I actually bite into it. It lacks something. [...] I can’t fill it up enough with my imagination. I can’t imagine all the details at once. And so, it lacks magnitude. It’s like imagining dreams to an orgasm. It is not real. You can feel it is not real, because something is missing. (PPPP-I-01-01)

Further, the finite amount of detail in mental imagery is also seen in the tactile domain. A participant reports:

Compared to the actual holding of the apple, the haptic feeling was more pathetic. Similarly to how my memory of the apple in the fridge is more pathetic than the actual presence of the apple here. So, the feeling is that it is not entirely present. There was no hint about how cold the apple is. One bit of information that now comes to me as I have spent some time imagining how it feels to have an apple in my hand, now that I attend to it and develop the idea of it, is that it is fatter on the right side. But when I was drawing, this gist of the apple emerged just enough to elicit a tactile, haptic feeling of holding it in my hand. Just enough to give the feeling that it is fatter on the right. Just enough for me to feel it on this part of the hand. (PPPP-I-06-03)

Second consideration is that the ways in which the *fractal structure of detail* unravels in an observer’s awareness need not be visual or attentional. It can be based on movement, or on using different tools or instruments in order for novel aspects of the object to become apparent. Consider the following examples:

Well, I physically move my head and eyes. Now, I suppose this is a form of learned behavior when you want to focus on something. So, I don’t know. It does not amount to a big effort. But it is an activity that I am definitely aware of. I know that it comes from me and my will. It is my movement. It is my own activity. And I experienced it, yes, I experience it as something that I do and based on which, so, based

on movement, I am manipulating what I see. Or rather, I manipulate the details of that. It is not completely different now. It is just a new way of looking at the same thing. (PPPP-III-08-05)

So, erm, again, because I've used scissors for many many years, it's interesting to feel the way the scissors cut specific fabrics, and the way they feel in my hands as a tool. But also, something I cannot do with my hands. It is another aspect of knowing the fabric. (PPPP-II-07-D04-S01)

Transmodal (phenomenological properties of perceptual presence)

Definition: *Transmodal (properties of perceptual presence)* refer to those aspects of experience that individuals attend to in order to discern whether an object is present (i.e., subjectively veridical) to their consciousness in a modality that appears to be the sum of all sensory experience available about the object. The transmodal presence of objects, however, is more than the sum of all modalities, and amounts to its own unique modality.

Subcategories:

Structure of lived space;

Affordance awareness.

Examples:

So, as I was looking at it, or rather, in this gesture of looking at it, I felt as if this [stream of water] is one, although I could separate it into vision and sound. But that would be doing violence to it. I would have to separate it with force. It appeared to me, as I was looking at it, doing this gesture of presence, I was experiencing the water and the flow, and simultaneously I heard how it is falling in the sink. This falling was associated with the flow. It was a kind of expectation. And I also saw how the water is making these curves. And I knew what to expect. On some level, I knew what the sound would be, even before anything fell down. There was a sense of expectation in the flow. [...] There was a visual image of how the water will form. And already that, gave out a kind of auditory component. It was in the flow. This expectation and knowledge about how it would be. This expectation that it will continue. The temporal dimension of how it will be was very strongly present. (PPPP-I-12-04)

The contents of my mental space are happening to me. It consists of my haptic feeling of the fridge door, the sound it makes when it shuts, the news on my headphones, the "left over after image" of the redness of the jam jar. (PPPP-II-04-D04-S01)

Structure of lived space (localized)

Definition: *Structure of lived space (localized)* is an aspect of experience whereby the world and the objects that populate it are experienced as a specific organization of space. Phenomenologically, space is organized as containing entities that exist on a continuum from *solidity* to *permeance*. *Solid objects* appear to consciousness impassible, dense, and thick. Conversely, *permeable objects* appear to consciousness as empty, traversable, and loosely structured. *Structure awareness* may be associated with bodily feelings, wherein *solid objects* appear as tactile imagination or sense of touch, however, this is not necessary.

Subcategories:

- *Solidity of objects;*
- *Solidity of space;*
- *Solidity of thought;*
- *Permeance of space;*
- *Permeance of objects.*

Examples:

PPPP-I

When I saw that the water hits the bottom of the sink and changes its form, this knowledge that I cannot actually grab it was confirmed, as opposed to when I was looking at it when it was directed from the faucet, right. [pause] This was not a separate sensation. [...] It was not separate from the stream of water. It is hard to explain. [pause] When my gaze was focused on the beginning of the stream, that is, at the

end of the faucet, when I was looking at everything at once in order to draw it [pause] and when I had my attention focused specifically on the part of the faucet where the water comes from, right, there was a sense of hardness. And then, when i directed my attention lower on this stream [pause] this feeling of hardness completely fell apart. [pause] The water obtained a completely new sense and feeling. [pause] It changed a lot. Before, there was a feeling of hardness, relative static, graspability. Then, there was this soft feeling of disorganization. [pause] Of movement. Of all of it. And another thing that changed was the feeling of light between these two [pause] experiences. In this top part, there was a feeling that light was in a way totally denser. Not just because the stream of water is stronger, but [sighs] the light played a much bigger role than when it actually touched the sink. (PPPP-I-02-06)

The visual impression of my goal (I can see it from here) and the distance between me and the goal. I imagine like a broad line between me and the goal. It's on the ground along the road. It kind of corresponds to the street. [...] I see the street the houses on the side and the trees at the end of the street. I'm directing my attention to the trees at the end and to the road. [...] I see this wide line on the ground. It's along my real environment. (PPPP-II-01-D05-S04)

There is a boundary to it. And a clearly known [pause] parts of where the object ends. That this is what it is. [...] this leach-like gesture [her term for attention] forms and grabs the object. This clearly focused attention. [...] Some part of this dense space that I am observing changes. It becomes less dense. As if the apple is very tightly packed together. As if it amounts to particles that are very densely together. They have their own specific properties. And then suddenly, it is something else. Something less thick. A different spatial property is present. Which is less thick. [...] It is spatial. I feel it. But not bodily. It is a spatial feeling. And a little bit visual. Because I am looking at the apple. It has visual properties. But as I am looking at it, I can also feel it. As if I can go into the apple with my gaze and feel how the apple is on the inside. And as I move my gaze out of it slowly, something is suddenly different. This space is different in a way. Yes, as if the space is softer. Things can flow through it. Around the apple. [...] This difference gives me the knowledge where the object is bounded. Or rather, where it ends. And this difference, in a way, it is visual, because I am looking at it. But more than visual, ti is spatial. I feel it in space. (PPPP-I-12-03)

PPPP-III

In a way, just knowing is connected to, mm, some properties and traits being a part, being, like, self-evident, I don't need further evidence to know this thing. I know them just by observing. I guess they are so primal in a sense. It is not a new thing that I am doing. Observing the world. I guess I am doing it since I was born. Like, recognizing something in the space. You don't need, I don't need to measure this apple to know that it has weight. Height. Weight. In a way, just knowing, I would describe like me not needing any more evidence to be convinced. I could be wrong. Definitely. But when you just know something, you don't really think about being wrong. You go *so this is that*. If somebody corrected me, I would go *okay, so this is wrong. But the point is when you just know, you think you know*. So, you don't think about being wrong when you are certain of something. Self-evidence is a good thing of describing just knowing. (PPPP-III-08-04)

Considerations: It may be that *structure of lived space*, i.e., the experience of the organization of space, is associated with phenomena such as ocular kinesthetics. Oblak (2020) reports on the phenomenological association between moving one's eyes, the experience of invisible lines following the eye-movements, and the experience of ocular kinesthetics, i.e., the feeling of touching an object with one's eyes. We encountered similar experiential descriptions in this study:

Talking with my dad about a piece of land next to our house. He's showing me where it is on a napkin.[...] I see the napkin and the place where it is as he's showing it with his hands. At the same time I transfer the information to my visual imagination of the real land. [...] Yes, yes, yes. I think so. Erm, I think, like, it just happened, that I gazed at it, and [pause] and only then I realized that it is good to look there. [Pause] like I didn't plan to look there, but it just happened to me. And afterwards I realized that I actually want this and I keep looking there. [...] I felt like my dad's fingers were just drawing on the napkin. Like, with his movement, it felt like he drew lines on the napkin. [...] Like, he actually showed lines and borders and stuff. I mean, he didn't have a pencil. The lines were invisible, but I kept them active in my imagination. [...] No, no. he just slightly touched the napkin. There was nothing that stayed there. [...] Erm, it was like a, like a visual imagination, definitely. But it is [laughs] it is visual but still invisible. That's a bit funny [laughs] I just knew after he drew the line there that there is a border. Erm, and it felt like I visually perceived the border. But obviously it wasn't there in the real life. I also didn't imagine,

like, a black line or something there. I just knew here is the border, and another one starts here. (PPPP-II-01-D07-S05)

Further, we can see in our participants' experience that *fractal structure of detail* and *structure awareness* constitute the same phenomenon. There is a clear relationship between the two categories. Namely, when attending to space or object, it seems to contain more detail. The *solidity* seems to be associated with the awareness of a greater amount of detail. This is explicitly reported in the following reports:

It felt that as I am looking at it and where the toy is supposed to be, there is just a kind of [pause] more distance that there was in reality. I don't know. it was a bit stretched. [...] It is just the feeling that I have when I was comparing it with the surroundings of it. It is just [pause] I don't know. it just felt like there is a pronounced feeling of space between my eyes and where the plush toy is going to be on my bed. [...] Because the surroundings were a bit blurry, there was, I was relatively focused on this one area, and this focus created the feeling of there being space. Because it was just kind of focusing on that direction. [...] Mm. [pause] Erm, so, I just, in that space, there is more detail. Like, more [pause] information. A better granularity. And that makes it seem more complex than the thing on the periphery that I am not paying attention to. And that kind of increases the sense of space you have. Because there is more to it as compared to the spaces where it is more blurry. (PPPP-II-08-D04-S01)

So, in the beginning I was seeing it normally and then it just, so it felt like I am seeing it closer because, ahm, [pause], because everything around it seemed to kind of dip down and it was going forward in my visual field. And I don't know if I was seeing that because of visual cues or if it was just kind of a mental understanding. (PPPP-III-02-04)

Solidity of objects

Definition: *Solidity of objects* is the properties of objects of one's awareness whereby they appear as a particular organization of space: the part of space that belongs to the object is experienced as *solid*, whereas the part of the space that no longer belongs to the object is experienced as *permeable*.

Examples:

PPPP-I

Subjectively veridical objects: Okay. So, the apple was really strongly present to my consciousness. I am not sure how, though. There was a small spatial feeling as to where it is located. But there isn't a visual representation of it. So, I am not sure how it was. But the apple was in my awareness. Some sort of an ID of the apple. [...] I may have subconsciously looked at the apple but I don't remember having done that. All the while I was drawing and getting lost in various visual images, I could very spatially feel where the apple is located. If I can use my typical expressions – there was a tentacle that goes from my head towards the right-forward direction. It goes a little bit forward. It can extend very precisely, this tentacle. Yes, that's what I felt. As if the space here is a bit thicker. It is just a spatial thing. And I felt a feeling of slight touch on my forehead. [...] At the end of this tentacle, or rather in this tentacle there was only and exclusively the gist that the apple exists. There was nothing more to it. It was not developed any further. Only that [the apple] is present there. There was nothing visual, shapely, or haptic about it. (PPPP-I-06-03)

The space that I was describing before, the fullness. It goes beyond that. It continues across the object and then goes forward into this boundlessness. At some level it stops, because I am no longer paying attention to it. My attention does not go that far. So, that is the point where the fullness ends. [...] I can feel how the space continues. How the space unfolds beyond it. It continues from this object. It is not a bodily feeling. It is not visual. I mean, it is visual, because I can see the object. It ends at some point. But it is not just visual. There is a sense of continuation. As if there is something behind it. (PPPP-I-12-03)

Sky: There is a sense of density in front of me. Density into which I can go, and that is in front of me. It is behind me and all around me. But I mostly experience it in front of me. Because that is where I am usually looking at. Yes, based on this sense of density. That I can grab it with my awareness and then things change based on that and appear to me. I can determine the parameters of how they appear to me. (PPPP-I-12-06)

PPPP-II

[The window and the floor] are really, the colors are very strong, and the edges are really sharp, and everything seems very touchable. Like very 3D and I almost have a bodily feeling that I could reach out

and grab them. [...] I feel the closer the objects are to me, the more real, or the stronger this touching or touchable experience is? [...] I would say that it is like a possibility of what I could do. So, I feel like I could easily reach out and touch it if I wanted to. [...] It is somehow in my body. So, if I think of the computer, it feels like I, yeah, it is very similar to that feeling that I described before about opening the curtains. So, it is like, like an action, like the potential to act on it and this is somehow present in my muscles. They feel somehow activated. (PPPP-II-01-D01-S01)

The close looking at the fabric and sewing machine existed, which I knew for sure because of touch. The mental content existed but I was only partially sharing with others - C and DB for example. (PPPP-II-07-D04-S02)

The book is very present. I can see it, I can feel its content, both in the form of the associations and imagery in my mind, I can feel it on my legs, I can feel its weight in my left hand. I can hear the rustling of the papers, and I can feel this connection between myself and the book, the gentle flow-y force stemming from the book towards me that is taking control over my willful actions. (PPPP-II-09-D01-S04)

PPPP-III

I really do feel like in this non-visual way I can sense the world around me. As the wind is blowing, I can sense the topology of the valley sort of splayed out in front of me and to the side. And part of that is me sitting on something hard and part of that your presence in the laptop down and to the left. And it's not visual. It's a – I feel it in the world, like I feel the world around me. [...] I'm absolutely a part of that. There is a solid mass that I occupy and that solid mass continues and where my butt is it continues in the bench that I sat and the bench continue in the hill and in front of me is the garden and then there is the whole valley. And I'm just a mass that has a point of view and I'm just kind of, this thing is part of that structure of the world – there is no; other than me being able to move it around, this solid thing in a specific way, it feels like it is the same; there is a continuity; it feels like – even though it's, okay, it's fleshy and the color is different, sure – but on this felt level it feels like [pause] I am immersed in the world. (PPPP-III-01-01)

What I mean when I say that it is a thing that I see in the world is exactly what I said before: even if I cannot see it directly, I can detect it next to me. I can detect it having a shape and volume and mass, and that it essentially operates according to the rules of the physical world in which it exists. On the other hand, this afterimage is located in this space-less void. Void is the dark red of my eyes [probably eyelids], and this background that comes as a consequence of having my eyes closed. So, [pause] this afterimage picture, similarly to images that I imagine, it is in the forefront. It moves through space and it does not necessarily follow the same rules as the physical space. And I cannot detect the same possibility of touching it or it having an actual shape or a volume. It just has a color and its floaty movement in non-space. So this is something that is the consequence of my observation and does not physically exist without me. (PPPP-III-08-03)

Solidity of space

Definition: *Solidity of space* is the property of space as subjectively experienced, whereby aspects of space may appear as *solid*. This *solidity* can be associated with the location of one's thoughts, as well as simply the space of visual attention. In the latter case, the *solidity of space* may also be associated with the space of potential actions.

Examples:

PPPP-I

Subjectively veridical object: I can see [the auxiliary lines]. And where I imagine them to be, the contrast becomes higher. [...] It gets darker there. [...] It is as if these little lines came out from the stem of the apple and to its core. As well as around it, layer by layer. And these lines are not something I see. Fuck! They are something that I feel. [...] I feel them in space. How to move. How they are directed. [...] How they bend. But they are in space like the apple. [...] This is part of me. I am creating that. [...] This is only present when I am really observing. Otherwise, I don't bother with it. I don't bother making it. (PPPP-I-01-02)

The north point: [the north] is a point somewhere in the distance. I am always aware of it being there. And wherever I turn, I know that when I check, that point will be there. Approximately. And even if I imagine myself moving, the direction of this point changes. [...] [This point[is a feeling [pause] in a way, I might be a bit drawn there. As if I want to position myself towards it. [...] I feel a bit out of control. If I don't know where the point is. [...] And then, it is awareness that it is behind. As if there is a line, between the point, which is actually quite expansive, and me. I can feel where this line is. Into what direction this vector coming from me points. And if I turn, this vector turns as well. It turns according to me. And this is a background kind of awareness. (PPPP-I-01-02)

Space of attention: Erm, certain things became punctuated. I went across this field that was now opening up in front of me. This unravelling created this field in front of me. And then I did this gesture that scanned across it. And then these important parts kind of noted or tagged themselves. [...] Spatially, erm, this was separated. The object was in front of me and I am scanning it. It is not that it is out there. But it is as if it is coming from me. From my body. As if the whole space is here and I am positioned with my body towards this object. As if it is filled up with something. This is the space that I am scanning. I do, however, feel that the thing I am scanning is at a distance. Away from me. That there is a distance between us. It is not near me. It is in front of my chest, but I do not feel it there. There is a distance. I can feel this field, I don't know. As something connected. I feel connectedness with this field. And then this thing, [...] This part of space just feels more prominent. As if it were more filled out. This part that is extending towards my body. And includes my body a little bit. It also encompasses the laptop. This part [gestures with her hand in front of her] [...] I experience this sense of being filled out in comparison to what is not filled out. What is behind me. Space. For example. It feels as if it is filled out. At least when I attend to it, and describe it and want to detect it and then draw it. Behind me, on the other hand, and to the left and to the right, diagonally to the side, I don't fill this filled-out-ness. Something is different in space. This space is, in a way, still there, but it is not full in the same way. It is not present for me in the same way. [...] So, the field in front of me opened up. This is somehow related to my shoulders. Feeling of going back. I can feel all of this. And then there was this rapid scanning from left to right. And then I directed myself into one part of this. As if that part is a little bit more filled out. I reached into this filled out part with something that again, went from this space, that is my body, towards this hand [on the photo]. And then it lunges into it. Or positions itself around it. It is thicker. This gesture of attention. And then there is the maintenance of this gesture. Attention kind of sucks itself onto this hand. [...] I feel this density. This space formed. And already I feel that it is thicker than the space behind me. And then within this density, this additional part forms that is even denser. Thicker. It is more concentrated. More put together. Really dense. Together. And I go into that. Into the image. Like a leach. (PPPP-I-12-01)

PPPP-II

Planned action: I was thinking that I need to get something from my room. The location of my room in relation to my body was very present to me (it's above me to the left). I felt like a linear connection between my body and the location. At the same time I felt some sort of pulling towards the stairs (I need to use them to get to the room). It's a bodily feeling. Like I'm just about to move into that direction. My body feels like it's orienting towards the stairs. [...] Seeing in front of me the part of my room where I want to get the missing stuff from. It's like a 2D screen in grayish void. But the edges of the screen aren't sharp. It's more like a soft transition into the void. I'm creating this. [...] It was like some sort of feeling that there is something. On the left top. That's where the room was actually located. So I was on the ground floor, and the room is on the upper floor and slightly to the left. So, I kind of felt like [pause] that that this location is somehow salient. Or has some sort of importance to me. Erm, but it is [electrical noise] I didn't see it or anything. It is some sort of bodily feeling that something is there. [...] It is more like, like some sort of force or some sort of power that I feel maybe on the parts of my body that are closest to that location. Yeah, it is like some sort of not really a full pulling sensation, but it is something I feel on the outside of my body. (PPPP-II-01-D03-S01)

Imagined person: Picturing myself talking to an indistinct figure (Z - because I haven't met her yet) in a room - which is often the room I imaginatively meet people, this is in the top right hand corner of subspace and above my head. The contents are happening to me, but it feels like I have some amount of agency in changing the direction too. [...] A figure, but also a presence, which I understood from the very small amount of emails that we have exchanged. And so, I guess I made a huge judgment on what presence she might have. And that is there. I have a sense of her presence. I have a feel of her presence. [...] Her physicality, what her body language might be. What she sounds like. Erm, [pause] erm, and yeah, just the feeling of when someone else is in a room. You feel that person there. If you are in a room, and there is another person there. [...] You ask the most difficult questions. Erm, [pause] I think what it is mostly for

me is the [pause] the sense of something being spatially located within a, erm, [clicks tongue] within a space that I am in. Sorry, let me rephrase that. Someone, something being located close to me, spatially located close to me. And sort of feeling, erm, my, I don't know how I know this. Erm, but without looking, I know, and obviously this is my living room, so I know where things are, I still know there is a table just behind me, without looking. And I can sense it there. And I think that is because one, I have a visual map in my mind. And also, that there I can sense a solidity. A sense of solidity nearby. (PPPP-II-07-D04-S01)

PPPP-III

Wind: The wind was present but I was not, ahm, I wasn't conscious of auditory stuff. I know that the wind was there, ahm, but I didn't hear it, but it wasn't; it wasn't like I heard a silence, I just wasn't paying attention to the auditory stuff. I have all this information about it, but at the actual moment of the beep I wasn't conscious of it. Ahm. [...] Like it was present as this; it was present kind of in the same way as the tree branches that were closer to me. I knew that it was there and that I could look towards; hear towards; listen to it. Yeah, I knew I could listen for it; there was something to listen; but I was not actually listening to it, ahm. [...] The wind was not visually present. I know for a fact that the branches were moving, that's sort of a factual statement about the state of the world in that moment. But I wasn't really conscious of that. But it did feel like there is something between me and the point of the sky that I am looking at, something being the wind. But it was just that. It's kind of the property of this patch of space, it's me in the forefront and then there's the slope of the hill and then there are bushes and trees on the hill and trees in the background and the sense that the sky is coming closer that the tree is. So, it's actually me, bushes, sky and then tree. And then between me and the sky, the property of the space is that it contains something else, which is the wind. [pause] And it felt, sort of, experientially it didn't feel, like the somethingness of the wind, didn't feel particularly different from the bushes. It was all this, sort of, unattended things in front of me. So qualitatively these feel like a, the level of concreteness of these different things kind of feels the same. (PPPP-III-01-01)

Flame: There's an image, but the image is really really really blurry, and I think it's just the fire and the idea of the space around. Ahm. And it's kinda [pause] purplish. And the atmosphere, ahm, just a second [pause]: It's like [laughs] ahm, okay, hm. [pause] Okay, this may sound stupid, but it's like when you inhale and exhale and the inhaling and exhaling that you take are deeper and there's this density in the area around you. Yeah. [...] I was immersed in that atmosphere, so I was feeling the air around me like that but not in there. [...] Yeah. Yeah. And I was thinking of, like, what a strange material – like material – the fire is and, ahm, eh, before more consciously, not a bit less actively, yeah, yeah, not actively right now, but I was comparing it to another type of material. I don't know, to something that could be modelled, because it seemed like stone or something, a bit liquid as well, yeah, which could be modelled somehow...A bit transparent. [...] It was again something that I felt in my chest, ah, it was a bit of surprise and a bit of excitement, ahm, [pause]; it's, ah, like a jump, yeah. Like a jump in my chest, ahm, and, ahm, yeah. It was cool. [laughs] [...] I would say the chest feeling was more of a consequence of this thought, "what a strange material this is" was more in the act of me looking at it and trying to, ahm, somehow compare it with the things that I know. Ahm. [pause] Yes. In the precise moment before I was just looking at the middle part and how in that precise moment it was a bit bending. (PPPP-III-04-03)

There were only these waves of heat that are coming from the edge. [...] It is a flow. *Waves* wouldn't be the right word. It is more of a flow. [metaphor removed] it comes in these leaf-shapes. Yes, leaf-shapes. They merge into the space where there is no fire. [...] So, there was a general idea of looking at the flame. Which means that I am looking at the flame as something that it is. And even the part of it that appears translucent to me is something. But it is less something than the edges that have color. But I am still assuming that I am looking inside of something. [...] the emptiness is identical to the flame as whole. [...] The emptiness has no other identity than the flame as a whole. Nothing other than being part of the flame defines it. It is just that. [...] It is flow and transmission and change. [...] There is a actual sense of moving through this translucence. Unlike if I am looking at the brightest point. There it feels like it is repelling me. While if I look at the translucent bit, it is as if I will crawl inside of it. It is like tiny falling. (PPPP-III-06-02)

Consideration: Much like in the case of *fractal structure of detail*, *structure of lived space* does not apply only to the visual modality. Indeed, by definition, *structure of lived space* is transmodal. During the study, we observed, for example, *solidity of space* to be associated with the presence of sound. Consider the following example:

It's a chainsaw today. Did you hear the chainsaw? Today was chainsaw. Jesus Christ. Today that was more difficult to drawn out than in our previous sessions and it felt like, and this was true for the last minute or so, but also for the last moment, it felt like the strangeness of observing the shadows in this pull, looking into it into a geometrical art theory way also made the noises super present. [generality removed] And so,

what was present about that was this constant chainsaw-y noise, this midlevel humming with – you know how the chainsaw has this feeling like it's getting loader and faster but not really reaching a faster speed? It kind of smoothly resets – so that was constantly present [chainsaw noise] and then back, an internal rising and then behind that was this sound that I identify as two pieces of wood being hammered together, this hollow echoey sound. And within that was this implication of what they were and also the location somewhere down there. [...] It's just intuitively clear. It's in the sound. There is an immediate knowledge of [pause] on the on hand - not really a hammer, the hammering bit was a theory - of the one, the one was the sound of wood, there is this, ahm, echoey quality that wood has when hit with something blunt, ahm, this kind of; it feels like the sound kind of disappears into it a way, that's how it feels – there's these explosions of sound that then kinda collapse into a single point [sound effects]. And then the chainsaw had that very specific, the thing that I said before, the violent rising in pitch, super loud, super sort of getting higher and higher and it's [pause] I'm now trying to think what a difference is between a chainsaw and a motorcycle and, yeah, yeah, it's the specific high frequency, something about the height and the way it gets higher and higher without ever getting actually higher, yeah. [...] So, before when I said that you have these, ahm, points into which the clanking of the wood sound disappears and I made a curve with my hand, so I physically felt those shapes in space. Like, these point in which, it felt like the location of the strike with the wood was changing, which was probably not true, but it felt like [sound effects], so it was a difference, like a slight difference in location, they weren't quite in the same spot and then the chainsaw noise was this infinitely thin line going kind of - if you take, you know, the hockey stick shape of graphs, not the actual hockey stick, but when you graph it... exponential function! Jesus Christ, I'm an idiot – exponential function graph going infinitely thin kind of in the space where the sound was emanating from. So, I felt these shapes, singular points, I felt them in space. (PPPP-III-01-05)

Solidity of thought

Definition: *Solidity of thought* is a phenomenological property of thoughts, whereby thoughts themselves have the particular spatial organization in which thoughts are experienced as *solid* and the surrounding space is experienced as *permeable*. Thus, we can observe a continuum ranging from empty space to thoughts to real-world objects in terms of how their spatial organization appears to one's consciousness.

Examples:

PPPP-I

Mental imagery: can go inside of this apple's core and I can see three seeds or I can see one. It depends on what I bring to mind in that moment. And this flesh [pauses] it is not only visual. I find this interesting. I can also feel its scent and taste and how it feels like. This is something that just comes with it. It is as if I actually felt it on the palm of my hand. How it feels to touch it with my fingers. [...] Most things I look at, I feel how it would be to touch them. And I don't have an actual sensation about it. There's just this internal feeling about how it is. (PPPP-I-01-02)

Mental imagery: Again, this was not really seeing. It wasn't a full-blown visual image. It was black-on-black. There were no details. There was no visual shape. It was just the knowledge that this is a hand, and this is the side of the hand that is the palm. [...] I know that there is something potentially visual behind it. It is susceptible to gestures that will tickle out some sorts of visual images out of it. And this is accompanied by some sort of bodily feeling of how it is to hold your hand like that. [...] I felt this feeling that was approximately in the same location as this image. It was in the image in a way. It was a part of the image. It felt how I feel the position of my hand when I actually hold it like that, except, I feel all the other things as well. They are connected to it. (PPPP-I-06-02)

Mental imagery: [The mental image] is like a very general outline of more things together. As if many instances bunch up together into a very general shape. And this is not visually clear. It is not sharp. But I still know what it is. I know what it is based on this mood that it contains. And partially, it feels a bit outlined, but this outline is not clear. When it appears, it does not appear as an outline, but as a feeling of this raw, basic form of hand. It just flashes and comes with a whole atmosphere. But it is not sharp. It is not clear how it looks like. I mean it is clear how it looks like based on this atmosphere and this, erm, how it appears to me is different from the space in which it emerges. [...] It is like a foggy imagination. It is separated from the space. As if something comes out of space, but not by very much. If that makes sense. As if something emerges out of it. And in the mood of this thing, I can discern what it is. [...] It is something I feel in my body. But beyond my body as well. It is all-encompassing around me. A sense of

being. It is everywhere. As if a cloud forms around me and it encompasses everything and contains it in itself. (PPPP-I-12-01)

PPPP-II

Planned action: My thought about my upcoming action (closing the curtain) is very clearly projected into the environment. So I actually feel the action I was thinking about happening at the window. [...] There was a sense of directing my body towards it. Like it really felt like I am exactly centered or oriented towards the window. Although I think I was not really. I was sitting ... the window was a little bit to the left, but it felt like my whole body is turned towards the window. And as if it was right in front of me [...] I would say that the muscular activation was already a concrete sensation, and I think that being turned towards the window is more like an imagination. [...] It's it's like the feeling is less strong [than imagination]. And it is more, it is less happening in my body. It is more like close to my body but not inside of me. [...] It is like a feeling that it is right in front of my chest or upper body, but it is not inside and it is not inside my muscles. It is more like something going on in the air between me and the window. And not actually in my limbs. [...] It is definitely something I can feel. Erm, I am just not sure how it feels. But it's like, yeah, a bit of a pulling sensation. Yeah, like magnetism a bit. Like a magnet is pulled by another magnet. I would also say that this turning sensation is less active. So, that's more something that is happening to me. (PPPP-II-01-D01-S01)

Planned action: I was actually wondering where this is and how ... hm, it is like first I was wondering where this thing is and then I felt like I had the approximate location. That it would be in my room. And I kind of zoomed in to see more clearly where it is located. Erm, so it was like a process. And that was kind of the end of my process when the beep occurred. [...]Hm, it's a bit like [pause] like a mental search. So, it is kind of like I ... like the starting point was that it is somewhere located in the house. And then it is more like that some part of the house, which is my room, becomes more important. And I think that is also associated with the feeling that we talked about in the beginning. That I felt a kind of force between me and the location of the room. [...] I think I just [pause] I feel like I just, erm, try to be more aware of any, erm, of any force that I would feel coming from a specific location. Or between me and the specific location. (PPPP-II-01-D03-S01)

I am partly creating the contents of my mental space, partly they are happening to me. My mental space feels like it extends closely around my body, with an anisotropy extending in the direction of my walking. [...] I see my white desk approaching as I place the watering can on its top. I still remember the sight of the news show on the small screen of my phone from looking at it a few seconds ago. (PPPP-II-S04-D08-S01)

PPPP-III

So, in this case it was really the kind of, there was this mismatch, right? It was almost as if the visual had a different sense of depth than the shadowy and that was the mismatch. It was, the mismatch, that if, if – well, no now let's not quite hypotheticals – it was just the mismatch that now if I was focusing on the shadows this space, it felt like I was touching it with my attention, I was making these micro micro movements in this three-dimensional space that really felt like I was kind of blindly touching the apple. And it felt that now that I am focusing on the shadows, the space that I am touching though in my attention doesn't correspond to the space where I thought that the apple was when I looked at it as, you know, an apple. That's when the noting happens, “there's something weird going on here and I can't quite make sense of it, there's like a-“, in that moment I felt the impulse to touch it, to get a third bit of information to kind of see what's the right way of, you know, not experiencing, but being aware of the apple, what's the right, sort of; what are the correct properties of the apple. [...] So, I'm looking at a bottom bit of the shadow, right? And this really really intense triangle and I'm just confused by it, I have no idea what's happening and then what I do is, I don't make a sweeping motion with my eyes, but I move upwards, and I do it quickly but in a point-by-point manner where I am tracing the outline and each point, kind of, there's a very 3D sense to it, I'm not just going up, I'm also going back and then around the curve and upwards and this kind of feels [pause] – touching is, it's a metaphor, because there is no real bodily sense present, but it's also not a metaphor because there is a sense that I'm experiencing this outward curve – so in a very real way it is like touching it, but there is no haptic or tactile or physical sense to that, but there is this, ahm, this specific way of engaging with space that is most apparent with touching. It feels, it feels as if I'm kind of [pause] trying to become aware [pause] of the shape of the apple in a non-, not explicitly, not that that's my goal but it's – I observe it through observing the shape. (PPPP-III-01-05)

So, it felt like the pear was definitely beyond my body, right? It was something that was behind my eyelids. [pause] And it wasn't a whole pear. So spatially it felt, it felt like it's not really a solid thing. Well,

no, it felt solid, that's a bad – it felt like this top layer of pear was present and there was nothing in the bottom, ahm, which I feel was part of what makes it big. I feel like if I'm looking at mountains that are far away they look like a 2D picture that someone put on the horizon, so it has that; I think this is part of what gives it this sense of size, that it feels so big that the actual shape is something that's not discernable, it feels [pause] like too big to grasp and that's kind of a part of it. It feels like a shell, a huge shell in front of me and I don't quite understand it spatially. And this shell kind of went on above to the horizon and it disappeared at the bottom so at the bottom there wasn't anything else. So, spatially the bottom was kind of replaced by this shape of the eyelids, by this up-going curve so there was this kind of contrast in spatial focus as well. (PPPP-III-01-06)

The image was still there, the zoom and the hardness, but in the back of my attention. So, yeah, there's a separation, a distance between me and the pear, and, ahm, I have to really push my thought – no, not my thoughts, my attention – to the pear. And, for example, to push it to it and then attach it to different parts if I want to focus on different parts. But yeah, it was harder than with a real object, ahm, and, ahm. And yeah, so in that moment I wasn't pushing or touching my attention, so it just, so it's like a [pause], a stream, but not really a stream. When I usually say stream it as a wavy sensation, but this was more like a stream of light, which is wavy as well, but more straight. Ahm, yeah. Ahm, and, so it just, it maybe had a magnetic feeling to it as well. So I have to push it towards the pear and if I do it harder enough, I cannot touch it, but there's still a force that tries to bring it back to me, or to it's rest position, whatever. So, in that moment it came back to me and it was in my thoughts, which were in my upper part of my head. Wait a second. [pause] Yeah, the upper part of my head, maybe a little to the left, but I'm not sure. [...] But it's like my focus, or my attention, is something that I have to push and to attach to the pear, because otherwise it floats a bit around and in that moment I just let it go a bit, and so it wasn't in my thoughts. [...] I don't know if I would call it sense of touch in that moment, it was a sense of hardness of pear, but I don't know if it was touching. (PPPP-III-04-06)

Considerations: It seems that under certain circumstances, individual's mental space is experience as *permeable*. In these instances (typically of highly aroused engagement with the world), they experience their mental space as detached and scattered:

I feel like I am, like, what I meant is that I was not actually imagining how it looks. I didn't feel this force between me and the location of my purse. That was completely absent. It was like also the purse itself was absent. In my whole experience. But the experience, like, the feeling of how my body would feel grabbing it or searching for it, that was present. (PPPP-II-01-D03-S03)

Consider the following report as well:

There is a complete absence of mental space or that my space is totally overlaid over everything around me. Both descriptions are adequate. It was not a salient aspect of my experience. It was as if I was totally submerged in the world. [...] This weird quality of the mental space is something new to me and I am struggling to describe it more accurately. The description: *my mental space is diffused into the world around me* seems accurate, but it is also kind of a bad description. (PPPP-II-09-D01-S05)

These subjective reports point towards the existence of the experiential category of *permeance of thought*, however, since it was only observed during PPPP-II, the category remains speculative.

Permeance of objects

Definition: Objects of awareness, which are typically experienced as *solid*, can also be experienced as *permeable*, however, typically, this amounts to a specific mental gesture. Individuals have to attend to the objects in a new way, such that they look *through* the objects in order for them to appear *permeable* to their consciousness.

Examples:

PPPP-I

I experience the houses [in front of the sky] in two different ways. I can experience them as a solid object that prevents me from seeing the sky. Or, I can see them as a permeable object or an item through which I can go or see in a way. Rather, I can experience the sky through them. Because it is simply air. But a bit more solid air. Through which I can actually pass with my awareness or attention towards the sky. These two options are given to me. I can decide whether I want to see the house as something solid, and then, I have to jump over it or go around it with my consciousness because you can't pass through it. Through this object. Or, I can decide to see the house as a bunch of disconnected particles. They are not solidly

put through. They are just visual. And then, if I pick the second perspective, I can pass through. With my awareness or my point of view. [...] If I look at them as a solid object [pause], I experience them, in a way, as obstacles. For my looking. As [pause] something very very solid and placed there in a very specific way. As something that will not move. That's how strong their density is. They are impervious. There is a sense that they will not move. That nothing will move and nothing will change. They are static. It will remain as it is. Mm [pause] Their solidity is so strong that nothing can change it. [...] If I try going into what is in front of me, if I try to force myself onto it or go towards it or through it, it feels as if it repels me. I can't do it. I stop. As if my awareness, my conscious point of view stops at that point. As if it reaches a point or part through which it cannot go and it bounces off of it. Erm, as if I can't pierce it. That's this feeling. And it is very strong. [...] And if I go into the other perspective, this solidity from before disperses. As if it dissipates into the air. As if there were particles of it. [metaphor removed]. And when I parse it, there are tiny, tiny spaces in it. There is void in-between. So, this density that I detect, even in general, this density is the density of air. And this density of air between these particles is what allows me to pass through. With my point of view. [...] This is something I do. I make the house more permeable. When I want to look through it. [...] In the world, or rather, my awareness of the world, this [permeance] in a way gives itself to me. This flow between the particles. It is a little bit related to how I look at it [pause] This permeable way of looking is something I feel in my head. I can feel how everything flows a bit more. And that my point of view is not clearly focused, as if it is out of focus. My look is softer, gentler, set in itself. As if it lays back. When I was detecting the house as more stable and solid, my gaze was more focused and clear. (PPPP-I-12-06)

PPPP-III

Ahm, Sylvia Plath has this poem where she talks about how she blinks, she closes her eyes and the world drops dead and then she opens them and the world is born again. So it feels a lot like that, like I close my eyes, there's this blackness for a millisecond and then I open them and I see this clear picture of the apple that I was seeing in the very beginning, it's very crisp, it's very detailed and I can recognize the different dimensions, I can see the apple in depth and all that and then suddenly as this picture starts fading or at least parts of it start fading it loses a lot of this. It loses its depth and its detailedness. And I kind of stop seeing it as an apple, like this 3D real object which I could eventually eat, it's more like this abstract visual thing. [...] well, as I said before, it has a pronounced depth and [pause] like at that moment I am noticing also the shadows that are cast by the apple and all these details that come with it, ahm, it just feels rich. Mmm. [pause] And also in that moment my visual field is broader or at least my attention is a little bit broader because I am also seeing fairly clearly the flowers and then the passers by and the thing on the left and yeah, I don't know, then afterwards it just becomes less and less affluent and yeah. (PPPP-III-02-06)

I mean, the surface was staying still, even though it wasn't, but it seemed to me that it was still, but ahm till it was going a bit right and left, hm, but I had the idea that somehow, ahm [pause] that somehow in reality it was going down and maybe that was related to this not being hard as well. [pause] And also like the transparency of it. (PPPP-04-05)

Permeance of space:

Definition: *Permeance of space* is the phenomenological property whereby space that is not occupied by an object, unattended, or unpopulated by thoughts appears as *permeable* and empty.

Examples:

PPPP-I

The rest of the world disappeared. [...] Like when I feel of the moment, [pause] it's like when I think of the moment when I experienced it I cannot think of anything else but me and the apple. It was just the two of us. And that is it. [...]. It's like, erm, there is no force, like, pulling the apple and me together or pushing us apart. It is just there. The borders of the apple are very clear and my body's borders are very clear and I can clearly experience that we are separate and there is no kind of force between us in any direction. [...] Like, the force between the pear and me was really present. It was that solid blob of air that I described. That is kind of [pause] pushing us apart or being between us and that is something I don't experience at all when I am looking at the apple now. (PPPP-I-10-02)

So, the space, and a little bit the apple, feel as if they are solid. The apple. It has boundaries. And it is material. It has a physical presence. But then there are things behind it. [...] There is an openness behind

it. A feeling that beyond this object, there is an openness. [...] As if there is a field of possibilities behind it. Field of possibility is a bad description, because it implies opportunity. What it is, is this openness. Openness of space. Which gives the feeling that I can go there. Because of this openness. [sigh] [...] When I look at the object, already in this looking, there is the possibility of going there. There is a presence of this openness. Not only when I reflect on it. When I gaze at the object, this possibility is present behind it. [...] This thing bounds the reflection. It comes back to me and it bounds the object. I mean, bounds. It creates a background behind the object. But within gazing at this object, there is this openness. Which is behind it. (PPPP-I-12-03)

PPPP-II

The screen and what's on it is actually present in the world. I'm just watching it, but don't have any discrete thoughts about it. [...] It is very real. Whatever that means [laughs] [...] Yeah. I would say it's [pause] like I feel like I perceive, erm, the distance between me and the screen, and I perceive where the screen is positioned in in relation to where I am positioned. [...] I feel [pause] a specific amount of air between me and the screen. And it is also like I kind of know how I would need to move to reach to touch the screen. [...] Hm, it is like [pause] like I have a very strong sensation of where my body is positioned. That my body is here and that the screen is not here. And that that difference kind of makes this sensation. (PPPP-II-01-D01-S04)

PPPP-III

I had a very open feeling throughout the whole experience. Ahm. When I say open I just mean in my chest and on the level of my shoulders I felt like there's just space going though my heart out to the screen. And there's this, just this kind of, yeah, openness and receptivity, so to speak. Ahm. I was also aware of my posture and kind of, sitting up right and also sitting in the Japanese meditation position. But those were just like [pause] small bodily sensations that I felt, but I didn't appraise. They weren't necessarily positive or negative, they were just there, reflecting the position of my body. While the openness, I; it was pleasant. [...] Well it was a spatial thing. There was just this feeling of [pause] inclusive distance between the inside of my chest and the position of my shoulders and the space right in front of me, where I was seeing the hand stimulus. So I was just kind of [pause] accommodating what I was seeing and [pause] letting it in my space, I don't know, that's at the feeling that I got from it. [...] It had these spatial characteristics, you know, where it was kind of deep, so including the screen, and kind of wide, but it wasn't a distance in the sense that it was between me and the hand that felt foreign, while this space defines a circle that includes the things that I let in me. If that makes sense. [...] So, the space that I described, it was [pause], it was a space in which, I don't know, the objects that were enveloped in it, felt like, I don't want to say that they were part of me, because I still felt them as, you know, foreign objects, but they were just kind of [pause] included (PPPP-III-02-04)

There is a void. An unfilled space. [...] Everything between me and the cloud becomes relevant. There is not trees or fields or meadows or roads or firs or electrical wires. It all disappeared. If you were to ask me where the space is here, it is jist this direct, absolutely narrow line. Like a cylinder or a pipe of space. Cylinder-shaped. [...] It is a sort of a microscope. When I focus on a part of the cloud, its magnification happens somewhere in this space. (PPPP-III-06-05)

Affordance awareness

Definition: *Affordance awareness* is the experience whereby individuals understand, in perception, that a specific object of their awareness affords specific actions or precludes them. Most notably, objects in one's awareness arrange themselves either as instruments or obstacles.

Subcategories:

- *Affordance;*
- *Obduracy.*

Examples:

Mental imagery: I can select a pear from this mix of pears in my mind. They stand one next to another when I think of them. And I picked the one that's my favorite. And at the same time, I tried to taste it. Its texture and taste and the feeling when you bite into it. The flesh on your teeth. And the one that is the most pleasing to me is the one that won. [...] I imagined actually biting into the picture. [...] I bite into it. And I can hear it. You know, the biting sound. How it cracks. And I imagine feeling the flesh of the pear in my mouth and on my teeth. It is a bit uncomfortable, because the hard skin is sliding on my gums. And

at the same time, I taste the bitter sweet. And I feel the texture on my tongue, when I start biting it. I am salivating now [laughs] It happened very quickly. As if I actually bit into it. (PPPP-I-01-01)

Digital VS. physical VS. imaginary: The digital image of the hand does not have the same feeling as, let's say, my pencil sharpener in front of me. But I would not say that it doesn't exist. I wouldn't say that it is not part of the physical world. It is more physical than it is imaginary. And it is closer to physical than it is to imaginary. But it doesn't have the same feeling as a physical painting. [...] It is again about these affordances. About what I can do with it. How I can manipulate it. How it can stop existing. It is much easier for it to stop existing. I turn off the computer. And also, it takes a different form. While the pencil sharpener would require different gestures to stop existing. More effort, more work. But again, visual image of the hand is on a different layer. It is a layer that is next to it, but it is something that I put there. Something that sticks next to it or over the physical world, but the two don't actually interact. It is something that might help my interaction with the physical world, but it is still on a separate layer. (PPPP-I-06-02)

Mental imagery: When the movement was done, and only the view from a specific vantage point was present, there was a sense that behind it there was no more space. As if it is pressed against something hard. As if it is up against a wall [...] It's very much a bodily feeling. [...] ~~It's like when you are walking with your back against a wall, and you automatically get clenched in the neck, so that you but your head lower as to not hit the wall with it. So that you touch the wall with your back first.~~ And this feeling, this pull towards hunching down, towards your head going down, it's not just a pull or compression. There's a physical sense present. Not a bodily awareness. But a feeling that something has to be done so that you can maintain this position. This point of view. It's a bit on the shoulders. Squeezing yourself in yourself so that you fit in a tight space. [...] Basically, it is an embodied feeling of trying to make yourself small in a tight space. But without the body. Only the feeling of having to make yourself small and squeeze yourself together remains. (PPPP-I-06-06)

Affordance

Definition: Experience whereby individuals, in perception, understand that the object of their awareness affords specific interactions. The object subjectively appears as an opportunity for bodily engagement.

Examples:

PPPP-I

Digital image of the hand does not have the same feeling as, let's say, my pencil sharpener in front of me. But I would not say that it doesn't exist. I wouldn't say that it is not part of the physical world. It is more physical than it is imaginary. And it is closer to physical than it is to imaginary. But it doesn't have the same feeling as a physical painting. [...] It is again about these affordances. About what I can do with it. How I can manipulate it. How it can stop existing. It is much easier for it to stop existing. I turn off the computer. And also, it takes a different form. While the pencil sharpener would require different gestures to stop existing. More effort, more work. But again, visual image of the hand is on a different layer. It is a layer that is next to it, but it is something that I put there. Something that sticks next to it or over the physical world, but the two don't actually interact. It is something that might help my interaction with the physical world, but it is still on a separate layer. (PPPP-I-06-02)

Drawing: It was – I am using the same word again – malleable. In a way, it was softer. More sensitive. It was something that my attention can collapse and change. It was not really visual. I was looking at a piece of the physical world and experiencing things that were not visual. It was just a feeling of movement, of rotation, of something. [non-experiential data removed]. In a way I had a feeling as though the drawing of the apple was the actual body and then my attentional gestures used this rotation to knock out the soul or the image of this apple. And this image started to rotate. But all of this was just felt as a movement. Visually, only this actual physical drawing was present. The drawn apple. (PPPP-I-06-03)

PPPP-II

Subjectively veridical object: I feel like this feeling is, erm, somehow, it is in my body, erm, but it is also, erm, in my body and the interaction with the environment. So, if I was actually touching the curtain. [...] I think, I, like an imaginary tactile sensation. [...] Of touching the curtains, yes. And also of my standing body position. As if I was standing next to the window. And it also feels like this is happening there. Where the curtain is. And not where I am sitting. [...] My body felt how it feels when you are standing.

And also, I felt like I slightly feel the texture of the curtain in my hands. [...] I think it's that, like the feeling of grabbing the curtain. I mean, [inhales] it's not like I created this tactile sensation, but it is like logic-consequence. Of my previous active, erm, feeling that I initiated of imagining to grab the curtain. So, it still feels like I have the power to influence the curtain, but it is not like I actively am trying to think about how the curtain feels. It happens. (PPPP-II-01-D01-S01)

Subjectively veridical object: They are really, the colors are very strong, and the edges are really sharp, and everything seems very touchable. Like very 3D and I almost have a bodily feeling that I could reach out and grab them. [...] Yeah, but I feel the closer the objects are to me, the more real, or the stronger this touching or touchable experience is? [...] Erm, I would say that it is like a possibility of what I could do. So, I feel like I could easily reach out and touch it if I wanted to. [...] It is somehow in my body. So, if I think of the computer, it feels like I, yeah, it is very similar to that feeling that I described before about opening the curtains. So, it is like, like an action, like the potential to act on it and this is somehow present in my muscles. They feel somehow activated. (PPPP-II-01-D01-S01)

At the same time I felt some sort of pulling towards the stairs (I need to use them to get to the room. [...] That was more, I would say that was more concrete. It is not a feeling that something is there, but I felt like I am doing something. Or, I felt more active in this relation. And I also felt that my body and my muscles and everything is kind of orienting so that I could get up and go there. [...] I was still sitting on the floor and packing my backpack. So, I was not, I wasn't already about to go there. But I still felt like, maybe it was also similar to one of our first samples, when I was just about to go to the window to open the curtains or close the curtains. It was this, erm, kind of getting ready in my muscles to [pause] to get up and go there. (PPPP-II-01-D03-S01)

PPPP-III

I don't understand what I was looking at and that was the desire to touch it, right? I felt this; my left arm twitched and that happened a bunch of times throughout the process, like I need more information to make sense of it, I need to; and this "I need more information" concretely was that I need tactile information, that I need to touch it and if I touch it the experience is gonna make sense, I'm gonna see which of the two angles is the right one. [...] None of this desire that this would give me more information, none of that was explicitly present. what was present that suddenly my entire left arm entered my awareness. I was aware of the position of the muscles, I was aware of my fingers, I was aware of this bit under my shoulder where I would expect the biggest sense of muscle activity to be felt if I reach for the apple. And it wasn't; it was quite subtle, it wasn't even muscular, it was more on the skin – it was more haptic, more tactile. And it was just that I became aware of his thing here on this side of me, very faint, very subtle. (PPPP-III-01-05)

Erm, I think from just the general experience of knowing how the things act in the environment. In a way, realizing the rules of the world we are living in. That I am constantly moving in. Erm, so it is more likely that this apple is here, and not just a figment of my imagination. Or maybe this is because I perceive it with all the properties. [...] o, even though, [pause] like I experience the apple in the same environment as I am and it is, mm, it exists under the same rules as I do. When I say rules, I refer to the laws of natural physics. It will fall like this [pushes the apple and lets it roll beyond the edge of the desk] When I mentioned before the properties, I think the properties that I mentioned a few times are actually, mm, connected to my experience, mm, or perceiving of the environment. The environment or space in general for me is a space that is in a way caging me and other objects to its own set of rules. Gravity. You know what I mean, there is a certain way we behave in this environment, and me and the apple share the same environment. So, I guess when I was experiencing with it, the connection between myself and ... well, I don't really get connected with it. Well, I guess a little bit. There was a point when I thought about, *okay, so, this is, like, in the same environment. The same space that we are both existing in.* it made me disconnected from the fact that I, as I said, perceived the properties and that I can interact with it. When I observed on the first day, for example, I had to imagine a pear, I didn't have this sense of its properties or even the sense that I can physically interact with it, even though I caused changes a little bit. In my mind, I couldn't do anything. (PPPP-III-08-04)

Consideration: The category *affordance* is closely associated with *fractal structure of detail*. As specified in the entry for the latter category, one possible way of unravelling novel detail from a sensorially present object is through physical manipulation of that object. In this way, affordances (i.e., the possibilities of particular bodily engagements with an object) allow for novel detail to be uncovered in the fractal structure of a given object. Consider the following examples:

Ahm, Sylvia Plath has this poem where she talks about how she blinks, she closes her eyes and the world drops dead and then she opens them and the world is born again. So it feels a lot like that, like I close my

eyes, there's this blackness for a millisecond and then I open them and I see this clear picture of the apple that I was seeing in the very beginning, it's very crisp, it's very detailed and I can recognize the different dimensions, I can see the apple in depth and all that and then suddenly as this picture starts fading or at least parts of it start fading it loses a lot of this. It loses its depth and its detailedness. And I kind of stop seeing it as an apple, like this 3D real object which I could eventually eat, it's more like this abstract visual thing. [...] well, as I said before, it has a pronounced depth and [pause] like at that moment I am noticing also the shadows that are cast by the apple and all these details that come with it, ahm, it just feels rich. Mmm. [pause] And also in that moment my visual field is broader or at least my attention is a little bit broader because I am also seeing fairly clearly the flowers and then the passers by and the thing on the left and yeah, I don't know, then afterwards it just becomes less and less affluent and yeah. (PPPP-III-02-06)

I was moving my body, actually. So, I was changing the perspective from which I would have looked at the stream. [...] I started a movement towards the right and I didn't feel like this starting the movement was really completely active. I didn't feel it, yeah, I didn't really feel it as active, I was just, mmm, mostly following a previous not really defined idea to just look at something else. [...] It felt like [pause] eh, like a, ahm, like the movement didn't have a meaning in itself, ahm, [pause], it was like, ahm, [pause] but it was fine, because I would have seen something different afterwards. Yeah. [...] I was moving like this, so I think like, yeah, I think I'm not sure about my leg, but for sure my upper body a little bit towards right and yeah. [...] I felt the weight of my body somehow. Ahm. So, yeah, as a movement of a weight, I can't.. and yeah, as something that I didn't really do actively. I was just more letting it happen to me. [...] Because from that perspective I finished to see what I had to see, something like that. How I was letting it happen? Hm. Just like that. [...] Somehow I wanted to, ahm, explore a bit more, ah, or to find new information, information in the sense of data [laughs] on this moving down thing or something new as well, ahm, and, ahm, and yeah, it just seemed useless to keep staring at the stream at that perspective, so I think that this was more the where my awareness was, but not in that precise moment, in the moment before. (PPPP-III-04-05)

Obduracy

Definition: Experience whereby individuals, in perception, understand that the object of their awareness precludes specific interactions. Objects in the world are, subjectively, experienced as obstacles, to a certain kind of bodily engagement.

Examples:

PPPP-I

Process: So, the flame went out and this smoke began to rise. And first, I spent some time just looking at it, because there was something mesmerizing about how it bends and changes and all that. [pause] Somehow, I didn't know how to begin to draw this dynamic, changing thing. [...] I insisted on [observing it]. But not because of, I don't know, a lack of energy to do something else. [...] So, I have the affordances and possibilities to do something else. But I have no desire to do so. It is interesting how stimulating it is. [...] There is a desire I can fulfill in observing this smoke. Something, I can achieve. (PPPP-I-06-05)

Subjectively veridical object: There is a sense of [...] availability. This apple is in a way mine. It can serve me [pause] and I cannot perform thought experiments on it: *what if it isn't real? Am I the only one who can see it and if I reach towards it, my hand will pass through?* I cannot do that. I had already touched it. It was soft. It was with me. I just nudged it. It has a different temperature than my fingers. I think the reality of touching it and my history with this object make it obviously real. (PPPP-I-09-01)

Stream of water: The second feeling was that I realized that it looks a lot like ice [laughs] This strong flow from the faucet [...] It surprised me. It breaks in a similar way to glass. Like a crystal glass. [...] If it weren't for this movement where it hits the bottom of the sink, I wouldn't really detect it. Or if I hadn't heard it. It really didn't seem like a moving thing. Where it hit the sink, there was a feeling of movement. I don't know. [...] The other feeling about was that it looks graspable. [...] It appeared solid. As if I want to hold it, I can. And if somebody were to throw it at me, it would hurt. (PPPP-I-02-06)

PPPP-II

Subjectively veridical object VS digitally-presented object: So, within the Sims game, I was, erm, I was still very aware that they existed. It is not like I just saw the child. The child was embedded in that colorful environment. It was part of it. Although the environment didn't have sharp edges and stuff. And also, I

feel that the child itself was more three-dimensional than its surroundings. Erm, but I have absolutely no memory about any surrounding apart from the Sims game. [...] I would say it is happening to me. I just feel like an observer of the three-dimensionality. And what is also interesting maybe is that it is not the same three-dimensionality that I experienced previously. So, I didn't have this, erm, this possibility of grasping it at all. It was like this three-dimensionality was simply represented visually. Like, I just experienced it by shadows and the shape and stuff, but not at all somehow bodily or anything like that. [...] The experience to manipulate it is very much represented in my right hand. Where I was holding the mouse. It is extremely connected to moving the mouse. [...] I can [pause] Hm, it is somehow like a kind of a force. That really goes from my head into my arm into my hand and then [pause] it's somehow the force goes from my hand towards this kid in the game. But this step is not like, somehow represented in the environment. It's just connected. It's like voodoo or something. It is connecting simultaneously. [...] It is like [pause] it is like a powerful feeling, erm, so, it's it's [pause] It's like I was very actively sending power to my hand and the moment it reaches my hand, I also see the feedback on the screen. [...] It is more like one event that I am sending out and it is reaching my hand. It is not a chain of events. It is one thing. [...] In the game I feel less active and I feel more [pause] more powerful. I didn't have that powerful, that controlling feeling at all when doing the curtain stuff. But it is very strong in the game. I would say these are completely different. These are two separate thing. [...] qualitatively completely different. It is also that in the game it is also more like, erm, I control someone doing it. Or, not, like I force someone to do this. And although I also do the action myself, but it is still somehow not me. The power or the force comes from me, but what I actually see happening is controlled by me but it is not me. (PPPP-II-01-D01-S04)

PPPP-III

Flame vs. eye floater: What I mean when I say that it is a thing that I see in the world is exactly what I said before: even if I cannot see it directly, I can detect it next to me. I can detect it having a shape and volume and mass, and that it essentially operates according to the rules of the physical world in which it exists. On the other hand, this afterimage is located in this space-less void. Void is the dark red of my eyes [probably eyelids], and this background that comes as a consequence of having my eyes closed. So, [pause] this afterimage picture, similarly to images that I imagine, it is in the forefront. It moves through space and it does not necessarily follow the same rules as the physical space. And I cannot detect the same possibility of touching it or it having an actual shape or a volume. It just has a color and its floaty movement in non-space. So this is something that is the consequence of my observation and does not physically exist without me. [...] The difference is the possibility of grasping it. Possibility of grasping it. So, it having physical properties in the world. I can interact with it. While with floaters and afterimages, all I can do is change my eye-blinking a little bit or my gaze. I can't interact with this thing beyond that. I can't hold it. No matter how hard I try. It is a thing that exist or rather moves in a different kind of space. It has different rules. On the other hand, a flame will unconditionally burn me if I approach it. (PPPP-III-08-03)

Generalized (phenomenological properties of perceptual presence)

Definition: *Generalized (properties of perceptual presence)* are those aspects of experience that amount to an individual's entire field of experience, i.e., their entire context, being experienced as belonging to the world and being veridical. In other words, the atmosphere of the world surrounding an individual is experienced as being present.

Example:

The email is most present to me but other things are still present regardless: the backpack I am packing, the heat in the room, a plastic box I am searching etc. Everything feels similarly real to me in that moment. (PPPP-II-04-D07-S02)

Subcategories:

- *Transmodal;*
- *Affective resonance.*

Transmodal (generalized properties of perceptual presence)

Definition: *Transmodal (general properties of perceptual presence)* refer to those aspects of experience that individuals attend to in order to discern whether the surrounding world is present (i.e., veridical) that are present to their consciousness in a modality that appears to be the sum of all sensory experience available about the object. The transmodal presence of the world, however, is more than the sum of all modalities, and amounts to its own unique modality.

Subcategories:

Structure of lived space (generalized)

Examples:

I think that like I as a person feel more present in the world again. Like, I can feel my, like I am more aware of my body, I can feel it better. I can feel better where my feet are located, where my arms are located. How I sit on my chair. I can feel myself more. Like my interoception is more present. [...] Erm, I think things get easier. In a way that [pause] things are just like they are. And I don't have to think about them. So, I think that I feel less of an active part in the world, but I just feel like an object that is incorporated in its surroundings. And it's like everything is just happening. I don't feel like I am doing something or creating something but it is just happening. [...] So, I have a really, erm, strong sense of location in that moment. So, I can really [pause] I really feel like I am seeing the world, almost. Not as myself anymore, but from a bird's perspective. So, I am kind of looking down at myself and I see where my body is located in the world. And I also see where the sky is located. And I can really see the distance between us. [...], visually, but it's not a very strong experience. And also the colors are almost black and white. Or grayscale. And it's all kind of blurry, but clear at the same time. I mean this doesn't make sense. But I feel I am seeing everything I am perceiving clearly. But I can just perceive the general image. [...] I think it's, it's the distance that makes me experience it as more real. Like that sense of, of location and that I described before, that I know where I am positioned in the world and where the sky is positioned in the world. And also that bodily feeling that I described. I can really feel myself and how I feel in this world. Like how my body feels in this world. And there is also no sense of insecurity in the way like everything is very concrete. Like the locations of everything. All the feelings are very binary: it either is or it isn't. [...] So, I think it's those binary things that make it concrete. Either it is or it isn't. (PPPP-I-10-04)

I feel it as solidly present air. It is around me. All around me. Around my body and around the object that I am focusing on. It is as if it is moving a little bit. About two meters around my body and all around. Well, it is not that present behind my back. I don't feel it behind me. But it is present for about two meters behind me. So, this thick feeling is present. As if the air around me is more condensed. Thicker. As if it has a different quality to before. [...] It is here. It appears itself to me. I can see it. I can feel it. I sense it with all possible modalities. It is very solid. (PPPP-I-12-05)

It is as if the wind touched me. I literally felt the wind on my face. As if it touched me. So, I experienced this as one thing. There was no difference between the wind that was touching me and the wind that I was observing. It was simply outside. (PPPP-III-08-02)

Structure of lived space

Definition: *Structure of lived space* is an aspect of experience whereby the world and the surrounding world is experienced as a specific organization of space. Phenomenologically, space is organized as containing entities that exist on a continuum from *solidity* to *permeance*. *Solid objects* appear to consciousness impassible, dense, and thick. Conversely, *permeable objects* appear to consciousness as empty, traversable, and loosely structured. *Structure awareness* may be associated with bodily feelings, wherein *solid objects* appear as tactile imagination or sense of touch, however, this is not necessary.

Subcategories:

Generalized solidity of space;

Generalized permeance of space;

Generalized solidity of object.

Considerations:

The sky is a limiting case of perceptual presence. In *localized structure awareness*, we can see that what *structure awareness* amounts to, in experience, is an object structure. It is the organization of space in which individual

features of the object (e.g., color) are combined together. When it comes to the sky, however, this object-organization is absent:

And I am looking at the sky and, in a way,, I cannot fully grasp the sky as an object. What I ended up drawing is what pops out, and those are the clouds. That's what somehow frames the sky. These graspable cues about what [the sky] is actually supposed to be. [...] Even now, as I am looking out through the window, I can see the following things: there's a fir tree that's still a little bit visible on the left; to the right and below, there's the roof of the neighbor's house, and to the right and above, there's the sky with clouds. And my attention somehow goes to the fir tree. This green thing in my field of vision automatically pops out at me as an object. As something that is different from a background. Similarly for the rough. As something that pops out from some sort of background. In a way – and this is a loaded phrase – it is more real than the background. It is more real than an object of its own. It is something for which I can discern the boundaries. Inside of these boundaries, it is an object, and beyond these boundaries, it is no longer an object. I can somehow grasp the fir tree and the roof. And when I look over they clouds, they are there in their unrefined fuzzy-boundary shapes. But they are still more or less object-like. [...] So, the boundaries between the cloud and no-longer-the-cloud are not as clear. Instead of a nicely drawn object with emphasized contours that stand out, this is just a splash that comes out from the blue. But when I try to grasp the blueness in the same way, I can't. Because this blue is the negative space, the background. The blue is what is not an object in comparison with these – simply put – three objects. Somehow, I can't grasp it in the same way with my attention. (PPPP-I-06-04)

This is why our original notion of *structure awareness* has to be extended to include generalized *structure awareness* as well.

Solidity of space and Solidity of objects

Description: *Solidity of space* as a *generalized structure of lived space* appears to one's consciousness as an overall organization of objects in surrounding space. When this experience is made more concrete, it takes the form of *solidity of objects*. When it comes to *generalized structure of lived space*, a sharp distinction between these two categories cannot be made.

Examples:

PPPP-I

How was I aware of the clouds and the blue of the sky? [...] I would say I did not go too much into it. It was more along the lines of me being used to and condition to the sky being blue when it is sunny outside. Somehow, it seemed right that it has to be like that. It had a gradient to it: the blue is stronger to the top than at the bottom. I did not go immediately for the color, though. It was more about the space. [...] It as about this expansiveness. This bodily feeling of wanting to follow it and hold it. I was not focused on the color too much. There was this sense of beauty. [...] I experience it as the same forces working on me than on the sky and the clouds. I experience it real through this motion and transience. It cannot hold its shape forever. It's changeable. Yes, that's it. And because of the movement and transience and connectedness. And because I can link certain factors through my senses, such as the wind. I can link natural phenomena to the clouds and the sky. To the whole space. So, me and the clouds and the sky, we occupy the same space, the same world. So, we are a part of the same transience and movement. (PPPP-I-09-04)

I think that like I as a person feel more present in the world again. Like, I can feel my, like I am more aware of my body, I can feel it better. I can feel better where my feet are located, where my arms are located. How I sit on my chair. I can feel myself more. Like my interoception is more present. [...] I think things get easier. In a way that [pause] things are just like they are. And I don't have to think about them. So, I think that I feel less of an active part in the world, but I just feel like an object that is incorporated in its surroundings. And it's like everything is just happening. I don't feel like I am doing something or creating something but it is just happening. (PPPP-I-10-04)

There is a sense that I can look there. I know that I can turn into that direction, and something will be there. But that is very subtle. It is implicitly present. When I draw or describe something. In this space that is more filled out. But there is still a feeling around me. Of what I can look towards. A background feeling of this. Erm, yeah. That is how it feels. As soon as you ask me, I will attend to that, and something will show up. And based on that I know. Based on this potential or possibility to look. (PPPP-I-12-01)

The space that I was describing before, the fullness. It goes beyond that. It continues across the object and then goes forward into this boundlessness. At some level it stops, because I am no longer paying

attention to it. My attention does not go that far. So, that is the point where the fullness ends.. [...] I can feel how the space continues. How the space unfolds beyond it. It continues from this object. It is not a bodily feeling. It is not visual. I mean, it is visual, because I can see the object. It ends at some point. But it is not just visual. There is a sense of continuation. As if there is something behind it. (PPPP-I-12-03)

PPPP-II

Erm, [pause] It was like a [pause] mm, I don't know if it was visual. Yes, it was visual. There was visual. It was a mental, not even an image, but like a model of where everything was. So, if I close my eyes I would kind of see it. Not just as an image, but an image with location. So, everyone had their place. It wasn't just visual. It was also the feeling of the distance, yeah. I knew how far they were sitting, I could stand up and go around the people with my eyes closed. You know in my head. It was like visual, but it is very monochromatic. When I have a model in my head, it is usually very monochromatic. It does have colors, it just has like a visual of that person is there, but this person doesn't really look like that person, it would be just a statue. I don't know. a gray statue. And this statue would have a placement. A certain distance away from me. It is like a model. I don't know how to tell you. It is a 3D, gray model that I can stand up and go around. If I wanted to. [...] I see it, if I close my eyes, it would still be in the same place as the people are. So, it is not in my head. It is outside. It has got a location, a distance. Away from me. It is in the same place as the people would be. And if I close my eyes, I could mentally go around these statues if you want to call them that. [...] I think if I know who the people are, it is much easier for me to memorize who is what. Like which statue belongs to who kind of. But if I don't know the people, then it is more difficult to give these statues an identity. But they would still have a place and a location. Because they are within my, I don't know, my visual model or whatever you want to call it. [...] it is more of a feeling of knowing that person is there. It is more of a feeling. Erm, but I think [pause, sighs] I don't know. I was gonna say that if I was to focus on these statue things, I would be able to kind of see the face. But it never got to that level. It was just my knowledge of where everything is, and it is not something that I consciously stop and stare at. [...] As in, it is not something that I very consciously experience, and I [pause] sometimes stop and look at the faces of the statues. It is not. I don't know exactly how I would react or how these statues would react to me interacting with them. Do you understand? Like, I never try to really interact with these statues. It is just how I am explaining to you, like, the model of how I would see people. Not see people. How I would know where everybody is even though I am not looking at them. But I don't think I ever consciously stopped and closed my eyes to check if I can see the faces on these statues. I don't know. [...] It was very much in the background. It was, it is just a knowledge of where everyone is sitting. But it is a very crude version of where everybody is sitting. It was not in the same black ... it does not have the same color, or the same intensity of the actual, of actually seeing these people. It was a very crude, rudimentary version of the place that would allow me to know where everyone is sitting. So, it is just a very crude model of where everyone is sitting. I don't know whether I felt it anywhere. I didn't feel it in my head in particular. If I close my eyes, it is at the same place and the same distance as these people are. [...] The relationship of thigs in this world [...] mostly to me, but just position-wise. There isn't a feeling. [...] It is just a crude 3D image with a distance and some sort of dimension. And that is it. The relationship is that of distance. (PPPP-II-03-D07-S04)

My attention felt like it was spread, visually spread, so [pause], mmm, in the sense that I didn't focus so much on the centre of what I was looking at, cause there, well, there was just the asphalt to see. I was focusing on what was happening around, to the left, to the right, where people were standing and walking. So, it felt spread out. [...] ~~I experience it as, now comes a metaphor: I experience it like a veil or a carpet that lays over those people in space, or dogs or objects or whatever, in space around the.. And it's a veil that lays also over those parts that I am not immediately looking at the moment. So it's also a veil of attending backwards in my memory as I walk along.~~ It's not only in the immediate moment of what I see right now, but it's also me attending to the person I have seen a split second ago and I know is still there and I know I still have to take care not to walk into. [...] I'm aware of them very spatially. Ahm, it's as if I can feel their presence, sort of, for example, to the back and to the left of me and half a meter or a couple of meters or something like that. [...] ~~It's... it's as if I am walking over a chess board with the chess pieces arranged in a particular way and I am near the arrangement and I knew the arranged by heart and I am walking over the chess piece blindfolded, but I still feel what's where, because I know my step is exactly one field long? [...] One field, as in one move long in the chess board. And so I know where to walk, but it's as if I don't do the walk y having pre-planned the walk, but doing it step by step and knowing where the pieces are without seeing. So it is —okay, perhaps I can reformulate— it is as if I am seeing them without looking at them. It is in a way visual-spatial, ahm, it's not a feeling of say bodily warmth on my skin or something like that or ahm abstract knowledge without concrete form. It is visual-spatial to me, but it is not immediate visual-spatial perception because I am not looking at them.~~ (PPPP-II-04-D02-S03)

PPPP-III

There is a gray sphere around me, and it is narrowing, and it is really claustrophobic. [...] It was concretely present. That is a precise description. [...] It is semi-transparent, like fog. At the same time it is greasy. And it is getting narrower. I have less oxygen. [...] This is primarily a pressure. [hypothetical removed] I feel it on my shoulders and arms, on my back, and on the lower side of my legs. It is like a weight. Erm [pause] It is becoming exponentially heavier. The closer it is to you, the heavier it gets. And it is not the sphere that is pushing against. Me. The air between me and the sphere becomes compressed, dense, heavy. Everything becomes solid. (PPPP-III-06-03)

I was feeling that we were still somehow in a closed space, so, like, yeah, that we were surrounded by the building, no? Ahm. And I felt it like a kind of pressure on my body, very slight again, but yeah. Ahm. Maybe no tin that precise moment, but I was aware of it. Ahm. [pause] So yeah. I [pause] I felt that there was an openness, ahm, above me, but also I felt this pressure around me. Which, like, if I can compare, if you; if I am in a closed space, like right now, there is this pressure all around me but it's more, ahm, quiet or still, while if I'm outside completely, like everything is open I don't have pressure, but if I'm in a place which is half-open and half-closed, ahm, I feel a kind of tension, because I feel the pressure around me, but I feel like something going up. [...] I experience the pressure - ah, the tension, not the pressure, sorry. [...] I experience the pressure on my body in the parts that are, so for example I don't feel it on my head - no! - I didn't feel it on the top of my body, because it was open there, but I felt it on the borders of my body. While the tension, ahm, it's hard to explain [pause], in a closed space there is no tension because everything [evens out] [...] While there, there is pressure and openness, so there is possibility for movement, right? So yeah. The tension was, just, ah, a consequence of the pressure and the openness. (PPPP-III-04-01)

Permeance of space

Description: *Permeance of space* is the phenomenological property whereby space that is not occupied by an object, unattended, or unpopulated by thoughts appears as *permeable* and empty. When *generalized*, this aspect of experience pertains to an overall awareness of the surrounding space rather than a specific subfield of space.

Examples:

When I transport myself behind the faucet [in her imagination], it feels as if the world is less solid. As if I can shape it more. As if it is more imaginary. [...] It is located all around in space. Past my body and looking at the water. As if the space beyond that is more variable. It is less solid. (PPPP-I-12-04)

I am aware of the plan also in a, hard to say it's a visual-spatial or motor manner cause, hm, it's a combination of both. Combination of seeing a gap to be filled with my path, filled with my walking and foreshadowing the feeling and the moments of that future walking. [...] The gap I experience very visually. As a strip of bare asphalt between two people standing, say. Between two obstacles or something like that. [...] I think I experience it almost bodily, as if I am taking those steps already in my head although they are only happening in a couple of seconds. So it's as if I feel them in my legs already now. [...] I wouldn't really say that it is exactly the same kind of haptic feeling of hitting the ground as you walk, for instance, or of the, ahm, pressure along the leg or something like that. It's more abstracted away from that concrete experience [...] if I now imagine walking on the moon, it feels very explicit and it feels - I also concentrate much more on how my body would feel walking on the moon: how light it would feel, how easy it would be to jump off the surface. And in that moment my future movement is much more in the background of my experience. It doesn't capture as much attention and it is less focused on what it will feel like to carry out the movement, bodily for instance, and more focused on the movements in the abstract, like commands for action. Though they still have a bodily-spatial character to them, they are not just abstract symbols. Like A stands for taking the left leg, B stands for taking the right leg. Still have that form, they are not completely arbitrary representations of that. (PPPP-II-04-D02-S03)

Affective resonance

Definition: *Affective resonance* refers to a specific aspect of experience whereby normal, expected experience appears unremarkable and may, in fact, not even be attended to. Novel, strange, or pathological experiences, however, are marked by their sudden appearance: their suddenness, their very appearance is experienced as striking, which may be interpreted as strange. This is a general experience of meta-cognitive awareness however, it may be thematized either as the experience of perceptual presence (i.e., the experience of normality) or lack-

thereof (the experience of strangeness). *Affective resonance* refers to atmospheric, felt overall sense of the world. This sense of the world can be, in reflection, attended to in order to discern whether the world as such is perceptually present (or, alternatively, whether the individual is present in the world).

Subcategories:

- *Resonance*;
- *Dissonance*.

Resonance

Description: *Resonance* describe the aspect of experience whereby objects that are concretely are coupled with the observer. This is most notably present with objects that allow for a specific kind of interaction (i.e., instruments), however, it may apply to any kind object. Abstractly, *resonance* describes the capacity for an observer to form higher-level experiential systems with objects of their observation.

Examples:

PPPP-I

It felt very primal. In the same way as dreams. Sometimes you can feel horrified in dreams. You can be really afraid. Even though nothing bad is happening. This is similar except it is a belief in reality, constructed by thoughts. [...] Looking back, there was just a part of me that believed that what I am creating is real. But if I try to just report on feelings and sensation, well, [expletive] It is much harder. It feels as if this feeling is only present when trying to imagine something. It's a feeling that is limited to my mental space. [...] It is a part of imagination. (PPPP-I-02-03)

The first thing that I realized was that it was really clear and it looked really clean, almost like it was an advertisement. It was way cleaner and clearer than I expected. And I liked it a lot and I also felt like really, really, I don't know, it almost felt unreal, because it was like, I felt like the features were like too [pause] too strong in a way that, yeah, made it, we can talk about it later in more detail. [...] Yeah, so I looked at it, and I could really, on the one hand I was really amazed by the glow or the reflection. [...] My reasoning was that water doesn't look like that. I kind of compared it with my generic inner picture of how a stream of water like that looks. And my inner picture was less clear and less three-dimensional and it was less shiny or glowing and through that mismatch I experienced that. (PPPP-I-10-06)

PPPP-II

I would say that this situation grounded me in a way that I did not need physical stimulation (though I guess a lot is going on around me 0 the road is quite noisy and people around are loud and the light is very bright. However, the absolute feeling of familiarity and belonging just made it fit so perfectly within my reality narrative that it does not make me question it. I am not aware of my body that much - so as far as my body (as opposed to the brain) is concerned this might be a dream. (PPPP-II-03-D04-S01)

This was a symbiosis between me and my laptop. [...] The process is not just happening within me. It was me and the computer kind of as one. So, the interaction was kind of there, in between. I wasn't doing all the work myself, it was also the computer. So, the process wasn't just happening within me, if that makes sense. The computer was part of me. [...] So, the computer was still the computer, okay. But it was more like an, I don't know, it was more like an interaction. It was not visual. So, I cannot describe it in a way that I was merging with the computer or [pause] it was just the feeling of sharing the load of what was going on kind of. I don't know if that makes sense. But the process was not just done by me, but it was a combination of both the computer and me. The chatting. And I was typing. There was something. But the outcome was an outcome of me plus the computer. So, the whole thing was like, an, I don't know, me and the computer were both the machine and then there was the product. (PPPP-II-03-D02-S02)

My mental space is an elaborate interaction of me with the information coming from the computer - there is definitely a connection and a merging - not like an extension of my body but as an extension of my brain and an aid to my mental processes. the mental space has a more complex structure than usual, it is like it has several layers that are not even uniformly overlapping. It is an interaction of the images, concern about water and durability of the wood, a visualisation of both units that touch and don't touch the wall, a wonder of whether these people who have the units in the pictures ever had problems and a

judgement process of whether I would like or not like to have a gap between the wood and the wall. [...] It was an extension of my brain. The computer was helping me visualize and giving me the information. Or trying to give me the information. Because I was looking for this gap thing between the wood and the wall. So, the computer was helping me visualize more concretely what I wanted. And it was also helping me see kind of, if I would have seen it, it would be a confirmation that one, it is doable, and two, it is not a crazy idea if I asked somebody else to do it for me. The computer was helping. It was more of an extension of my brain. It was helping me compute everything. Better visualization and stuff. Like sometimes, when I am typing and I am seeing the words on the screen and stuff. That is like an extension of my body, my, like the computer is doing what I am telling it to do. My hands are doing what I am telling them to do. But this was not like that. This was more of an extension of my brain, helping me compute things and making things clearer. (PPPP-II-03-D06-S06)

PPPP-III

Well [pause] as I said before, focusing concretely on that object deprived it of its visual depth, of the whole scene, because I was just focusing on that. And everything was happening more or less on the same plane even though the layer I connected with my eyes, the imaginary, so to speak, layer, felt like it's closer to me than reality. [...] It's really a matter of distance. It's just, if [pause] if the thing that I label myself is the experiencer is happening on the level of my eyes and my head and stuff, on layer feels like it's directly on my eyes and reality feels more distant, more out there. (PPPP-III-02-03)

[Water stream] moves. I don't know. It moves and then [pause] you can predict it a little bit. If you listen a little to where it will go. [Pause] As it moves, this is the whole cylinder, but it also gives you additional information for later [...] It drags me with it. [...] As it moves by a tiny bit, I already follow it. [...] I track it with my eyes and I know where it will go and to what extent. (PPPP-III-06-06)

Dissonance

Definition: *Dissonance* is an experience whereby either an object of one's perception or their overall atmosphere of experience becomes strange, novel, or unusual. This strangeness is so strong that participants do not readily recognize it as veridical.

Examples:

PPPP-II

It seems that the heat is interfering with my perception of reality. The heat gives a feeling of being under a blanket, a feeling that is often present during a dream - even though I should be feeling pain/cold/tiredness during a dream, all I usually actually feel is warmth and comfort. so the feeling of constant heat gives life a slight feeling of being in a dream state. [...] So, I don't know whether this happens to other people. When I am sleeping, and even if I am dreaming that I am drowning, or I am dreaming that I am dying, or I am dreaming that I am in lots of snow, or anywhere that I am in a dream. If I try to think about what am I feeling in my body, if I ask myself if I am in pain, am I cold, the only feeling I feel is warmth. And just a feeling of being relaxed. Even if I am supposed to be dying in my dream, all I am feeling is relaxed and warm, because that is how my body is. [...] like physical warmth. Yeah. So, because when I am sleeping, usually I am under a blanket, and I feel warm, and am relaxed. So, emotionally, I would say I feel relaxed. Like, I, unless it is a nightmare and I feel really excited and scared, I usually, if there isn't an aspect of arousal, then I feel, even if I am dying, I would feel relaxed in the dream. So, if there isn't any excitement going on, I am relaxed. If I think about it. Okay, so, having said that, here, since it is really hot all the time, it gives like this feeling of all the time being under a blanket. So, it kind of blurs the feeling of reality and the dream a bit. Because the general feeling is there all the time. You are half the time asleep, and half the time warm, so it kind of blurs the borders. [...] Okay. I think that this this specific time I was thinking in general for all the times. It wasn't just specific for this beep, yeah. so, this was kind of every time I said I was groggy and hot. It is kind of this feeling. But when I was writing this one, I realized why it is so much like that one, yeah. So, concretely, at that moment, it just feels like my brain is not that sharp, like it is a bit slower and I don't realize things that fast. It is just a bit slower. And if it is slower, I don't perceive things that fast, I don't get the feedback from visual perception or auditory perception that fast. So, it feels more like a dream than reality. [...] But I would say there is a slight delay from, let's say, you talking to me, and me responding. So, there is a short delay. There is a longer delay than usual. Between perceiving the stimulus. [...] It is just like everything is going through a viscous fluid to get to me. (PPPP-II-S03-D03-S07)

A bit groggy. It is hot. I caught mind wondering and kind of day dreaming even though I am speaking. Very blurred feeling of reality. [...] : I was really groggy. When it is hot here, you just get so slow. And like, yeah, in fact I didn't even remember the mental space part. Like, my brain is very cloudy. And all of it is kind of a dense cloud that I cannot navigate through. Going from one thought to the next is very difficult. [...] : Okay, so I would [pause] describe it like it is a very, so I would, imagine you are in a very thick fog and it is even dark, and you are trying to get from one point to another. Maybe you know the direction, but you can't really see where you are going. So, you actually go slow. And you go blindly. So, it is all just foggy. That is how I would describe it. If I would have to describe my mental space, it was kind of like that. But sometimes when I describe a focal point, I describe it like a pressure in my head, and I also describe it like a dense cloud. But this is kind of different. It's like a dense cloud that takes – it is not a focal point – but it takes over the whole brain and then it is difficult to go from one point to the other. But actually, at that point, there was still a presence of an image, yeah. and that was in my head. It wasn't in front of my, it was in my head. But it was, it had the colors of the waves. It was an image. [...] So, if I have to experience it visually, it kind of looks very similar. But when I am thinking of something, or I am focusing on something, I will have one part of the brain being, like I would feel a slight pressure there, and it is over there that is this small dense cloud of focus. Now, in this situation, it is like my whole brain is this dense cloud. And that makes it just really bad to navigate. [...] It also makes it really bad to perceive things. Like, if something is trying to get anywhere in your brain. It is like slowing down. Kind of like a viscous fluid, like I said last time. [...] Erm, that is the thing. [The visual field] almost wasn't really a part of my experience. I know it was. But there was no association with it. It was nothing. It was just there. Like watching TV and not paying attention. It was just there. So, it was present. And I knew it was there. But it wasn't doing anything. [laughs] It did not cause any reaction. It was just there. (PPPP-II-03-D04-S05)

I am in between reality and non reality. I am not very focused on what is going on around me. I could be reading an article in a dream as far as I know. It did not really instill any special feelings and I was just reading it cause it popped up. So my actions and reactions kind of happened to me and I am not really very actively participating in my own experience. It is very hot and I feel relatively lazy. I should actually be doing something else but this was pure procrastination. (PPPP-II-03-D06-S03)

I wasn't actually; no, there was this [pause] I know the hill very well [pause] and just the fact that the pole was so salient was weird. Like, familiar things are not that clearly present. [...] And it just, the, just the fact that this became now this object of observation and it kind of impinged itself on my awareness, that it demanded my attention, felt strange. [pause] And strange – it felt this newness, this demanding my attention, like when I actually had, sort of, hallucinatory or psychotic experiences, that was precisely the same thing that happened. The objects in my awareness appeared as radically new and radically interesting and, sort of, radically out of place. And I was kind of, with the exception that the pole was completely localized – this was a characteristic that was entirely its own – it was precisely the same in the style in which it appeared to me. [...] It's neither bodily nor mental, it's a property of the stuff out there. The newness was the property of the pole. You know, the pole, it's has; the pole is white and it's made of wood and it's new - it's a similar kind. Like, so basic that it's the property of something there. And then obviously as it's something new in my attention I am curious about it and I'm doing things to it. (PPPP-II-09-D03-S07)

PPPP-III

I wasn't really, ahm; during the dream everything was really detailed while in these images I had now it wasn't. So I was looking at my hands, but I wasn't really. Like, I knew that looking at my hands, the fingers were weird, but I didn't really see them as weird, because everything was really blurry. Or not blurry, but not defined. [...] It's like, ahm, this [pause] this, this me being in the image, it [inaudible]. Ahm, hm. Ahm. So. It's not thick, but it's – [...] Thinner. It's thin, yeah, we can say, it was thin somehow, I don't know if makes sense in any way, but I experienced it in that way, ahm. Yeah. Wait. [pause] So this level, it's like here [points in front of head], but there is something more in the background of me, which uhm, is staging it somehow. [pause] Ahm. And there, there is the knowledge that, like, yeah, of whatever is in the dream. So yeah, this reliving the dream, ah, wasn't really a complete immersion as it was in the dream, so I wasn't completely in this, in this whatever, in this world, but it was just a thing of my experience at the moment. (PPPP-III-04-02)

Associative presence

Description: *Associative presence* is a border category as it does not, strictly speaking, amount to experiential data: it does not necessarily describe how a specific aspect of experience was present to one's consciousness, but

rather its content. *Associative presence* is an experience wherein the object of one's perception is laden with content. In an observer's awareness there is an immediate amodal awareness of some content.

Subcategories:

Autobiographic;

Animistic;

Intuitive;

Rationalist

Autobiographic (associative presence)

Description: *Autobiographical associative presence* is the experience whereby the object of one's awareness contains, in perception, some tie to an individual's past. Note, that *autobiographical associative presence* is not a memory in and of itself. It is a sense of perceptual familiarity that can be, upon reflection, traced to a specific even in an individual's past.

Examples:

PPPP-I

Here, there were so many details about how the web is inside, and a piece of plastic in-between. And it just so happens to be present in my memory today, because I had spend the night cleaning them. So, I spend a lot of time looking at it fairly recently. But at the same time, this wasn't clear enough to be drawn. When I had tried to draw them, I was turning around and there were hints of these webs, but they never formed a unified whole. (PPPP-I-06-06)

In a way, the feeling of the apple being real is associated with the fact that it has a history with me. That it is in the room with me. It was in my hands. It had come from the kitchen with me. I put it on the table. I observed it. There's a feeling of manipulation with the object. And that makes it real. (PPPP-I-09-01)

PPPP-II

I don't know if I can [pause] yeah, it's like when I was explaining how I was experiencing the memory, that was kind of compared to the actual experience of the dwarf, so, the dwarf was there in my visual field and there was, like a background to it, and then the memory of it was just the dwarf. And now it is fused together with the image of the neighbor and also with that feeling. One of the memories wasn't, erm, as detailed, but it had more layers to it. It had the image of the man and also, erm, the connectedness to it. And there was reality, and reality is detailed, but it is not that layered in that sense, yeah. (PPPP-II-08-D05-S04)

PPPP-III

When I started imagining it it was a pear that was just an isolated pear in an undefined white background and it was, sort of, isolated – it was casting a shadow on this white surface, but it was just that. In itself it was quite detailed, but yeah, it was just a pear. And then afterwards, as I continued imagining it, it turned into a pear on a tree and I think it's a tree that I knew. So it's a pear tree from my grandparents place and I was seeing, like a aprt of it, so seeing a branch and the pear was hanging on it. And it was very detailed, it was a very realistic tree – it had dew-drops and had this whole atmosphere around it [...] Well, it's really like a picture. So it was a static picture of this tree which I know from my memory even though it wasn't an exact replica of "the tree", but I just kinda knew it represents that tree that I know from my grandparents' place. (PPPP-III-02-01)

There was an awareness that this is how I did it [drawing a pear] as a child. So, the emotional part of my experience was not really that intense. It was more related to this awareness why I see it like that. So, there is not a specific memory at all where I would episodically remember that one time when I drew a pear like that. It is the style with which I used to draw pears. [...] It is, and I don't know if this is the right word, a primal understanding. As if it was always there. [...] It is a nostalgic link to how I drew it. Immediately when I saw the yellow pear, it came with the awareness that this is the kind of pear that I had drawn. Not very specific. But approximately how I drew pears. Usually on a hedgehog. This was the nostalgic connection. (PPPP-III-06-01)

Visual snow: These dots are always jumping. I was focusing on that. [...] When I first saw them a couple of years back, I decided that these are silver fish jumping across the sky. [...] Deciding to make them fish

was because of movement. That is, when I saw them again today. These dots. This was an automatic association of fish because of the way they moved. And when I saw them, I wondered how to describe them and the *fish association* happened. [generality removed] They are fish specifically because of the way they move. [...] The dots manifest themselves out of nothing. As if they have their own space where they can jump. I can't see this space. I only see the dots. [...] How does this association appear to me? I detect something. [Pause] As if there is an association glued to it. I mean, glued! It arrives as a thought. I see it and then there is a thought about it. (PPPP-III-06-02)

Animistic (associative presence)

Definition: *Animistic associative presence* is the experience whereby the object of one's awareness appears alive, as if possessing agency and a point of view. The object of one's awareness need not be a living organism.

Examples:

PPPP-I

There is a feeling of the hand [pause, laughter] of the hand as something organic. Something very very human. The hand that flashes in front of me has a very present feeling of humanity. [...] It is a specific atmosphere of the photo. If that makes sense. As if this photo, this flash comes with a style with which it appears to me. Erm, and this style is like a kind of atmosphere. How it appears to my consciousness. It has a specific feeling. It is not only visual, but it has ... I mean, it is also not visual. It is pseudo-visual, what I saw. [...] It appeared with this special feeling how it is to see another person's hand in the world. It has the specific feeling of something in the world which is human. Erm, that it is made of organic matter. It has a feeling that it will decay once. It has a special vibe. [...] There is also a feeling of transience of human beings. When the hand comes, when this flash happens, it appears with this atmosphere that contains all of these things. (PPPP-I-12-01)

Intuitive (associative presence)

Definition: *Intuitive associative presence* is the experience whereby the understanding of how an object of one's awareness appears from either its occluded side or on the inside is inherent in one's perception.

Examples:

PPPP-I

When I was drawing [the pear], I was focusing on [eating it], and then the pear appeared to me in the cross-section, and I tried to zoom inside of it. What is happening in the stem, and at the bottom, how the seeds look, and all of its insides. I was no longer imagining eating it. That just happened at the beginning. [...] The pear shifted into another image. [...] That happened really quickly. As if I wanted to – I don't know – zoom into something, and it happened in an instance. [...] It was a new image. It was not as if I saw myself coming closer to the image. It was just a close-up image. With a bunch of intermediate images. And I can shift between them. (PPPP-01-01)

Rationalist (associative presence)

Definition: *Rationalist associative presence* is the experience whereby the object of one's awareness appears to contain, in experience, scientific explanations about it.

Examples:

PPPP-I

And what happened then was this awareness of a lot of particles. Right in front. A little bit larger. And in the back: a bit smaller. There were a lot of them. They formed a kind of mist. There was an awareness that the imagery of these particles has a depth. And there was an awareness that I am only looking at half of them. [...] There was a felt absence of a lot of these particles. [...] I imagined various small particles that are the smoke. (PPPP-I-06-05)

I also experienced the apple as being nutritious. It has this potential of nutrition and becoming food. [...] It has this nutritious aspect when I look at it. Like it contains energy. And it is also something that comes from the trees. If I go beyond what I see on the surface, and really consider it, the apple is life [...] It has this structure of knowledge about apples and sugars and how all of that looks like, and how dense it is. And how it feels on my tongue and under my teeth. The sweetness. And what I would have sensed on my

palate is giving me a feeling of some sort of life energy. Which, in the future, can be my life energy. Or it can turn into a seed and turn into a tree. I am not imagining or seeing this energy. There's the potential for energy. (PPPP-I-09-01)

I nonstop have this image of how apples are densely packed with these small sugars. I could feel them on my tongue, under my teeth. These little dots on my tongue [...] It is almost as if it pops on my tongue. I can feel the density, the mixture in my mouth. Mostly, the texture of the apple. Like I had reached the atomistic part – even though I know, it's not an atom – but the smallest one's that I can still perceive. Very much an embodied feeling on my tongue. It is a mixture of texture and lightness. Good feeling of energy. As if I had already eaten some of it. (PPPP-I-09-01)

PPPP-III

I was seeing these hot droplets. Hot droplets that are filling up from below. From all sides actually. As if the droplet is sucking stuff in, and the world is fueling stuff into it. But this is a bit theoretical. Knowing how combustion works and all that. [...] If you look closely, you can see that the way has a kind of flow towards the flame. It is fueling itself from below. The way is moving a bit. But the droplet itself does not change. Bit I am experiencing all of this based on my previous experiences with fire. Probably. [...] I experienced burning as some kinds of flows and influences. But I could not say that this was conceptually a well-developed idea. That this is combining with oxygen and forming CO₂. (PPPP-III-06-02)

4. Quantitative overview of the categories

While not the principal goal of this study, we performed a provisional quantitative analysis of the experiential categories induced from subjective reports. A complete overview is presented in Table 5. We present the total number of instances observed, as well as how many individuals within a given study observed a specific aspect of experience.

It would appear that *fractal structure of detail* is the most readily observable phenomenological property of perceptual presence. This numerical observation is supported by qualitative data, specifically, it would seem that this aspect of experience was the easiest to identify for participants.

Affordance awareness (which is comprised of *affordances* and *obduracies*) was most commonly observed in PPPP-I, and was fairly rare in PPPP-II and PPPP-III. This may be related to an explicit task being used in PPPP-I. It therefore stands to reason that instrumental aspects of experience (i.e., what parts of one's experiential field may be used to solved a specific task) would be more readily apparent.

On the other hand, *affective resonance* was most readily observed in PPPP-II. Conversely, in PPPP-I, the data on this experiential category is not only rare, but also of low quality. We conjecture that this is because spontaneous couplings with environment are more common in a near-ecological settings. *Dissonance* is, by definition, the sudden awareness of the strangeness or novelty of the situation. It may be that in an artificially-contrived, laboratory-based exploration of experience, *dissonance* overrides any sense of normalcy. This would make *resonance* difficult to observe in a non-naturalistic setting.

	PPPP-I		PPPP-II		PPPP-III	
	Total f	No of participants	Total f	No of participants	Total f	No of participants
<i>Localized solidity of thought</i>	13	6	20	4	4	4
<i>Localized permeance of thought</i>	0	0	7	2	0	0
<i>Localized solidity of space</i>	15	6	12	6	7	6
<i>Localized permeance of space</i>	0	0	1	1	5	3
<i>Localized solidity of object</i>	21	7	20	4	14	6
<i>Localized permeance of object</i>	5	3	0	0	2	2

<i>Generalized permeance of thought</i>	1	1	5	3	0	0
<i>Generalized solidity of space</i>	8	3	6	2	4	3
<i>Generalized permeance of space</i>	2	1	2	1	0	0
<i>Generalized solidity of object</i>	3	2	1	1	1	1
<i>Resonance</i>	2	1	31	4	9	4
<i>Dissonance</i>	3	3	19	4	2	2
<i>Affordance</i>	15	5	3	2	2	2
<i>Obduracy</i>	13	5	1	1	2	2
<i>Fractal structure of detail</i>	32	7	11	6	20	5
<i>Autobiographic</i>	5	4	19	4	4	3
<i>Animistic</i>	3	3	2	3	8	5
<i>Intuitive</i>	18	6	1	2	1	1
<i>Rationalist</i>	8	4	2	2	1	1

Table 5. Quantitative overview of valid categories

5. Abandoned categories

The present section represents an overview of experiential categories that might have reasonably been induced from the data, however, they were ultimately omitted. Entries in this section are structured in a similar manner to entries in the codebook proper: a) a name; b) definition; c) potential subcategories; d) examples, and e) considerations. The major difference is that here, considerations include a justification for why a given category was not carried forward into analysis.

To restate: These categories may very well be considered valid. They simply do not fall within the scope of the present research.

Mental gestures associated with perceptual presence

Description: The hypothetical category *mental gestures associated with perceptual presence* amounts to specific gestures – as accessible in conscious reflection – that individuals may deploy in order to manipulate or modulate how a given object is present to their consciousness.

Subcategories:

Simulation;

Constructing dimensionality.

Considerations: *Mental gestures associated with perceptual presence* were omitted for two primary reasons: First, most subcategories (with the exception of *visual simulation*) are method-variant. What is more, the differences across methods are significant. They do not amount to differences in scope or degree; rather, they could reasonably be coded as different categories. Second, during the study, it became clear that perceptual presence is a phenomenological problem that is too complex to be amenable to a single analysis. As stated in the *Starting assumptions* sections of the paper proper, we therefore limit ourselves to object-active inferences in this study. These are the phenomenological properties that, in experience, are associated with the object of perception instead of the observer.

Simulation

Description: *Simulation* is a hypothetical category that describes mental gestures – as observable in conscious reflection – that individuals may use in order for the structure of the object of perception to become clearer. Commonly, *simulation* is used in order to achieve a specific goal (e.g., drawing).

Subcategories:

Visual simulation;

Embodied simulation;

Contextual simulation.

Visual simulation

Description: *Visual simulation* is a hypothetical category that describes mental gestures wherein the object of perception is recreated in an individual's mental space and then manipulated in order for novel knowledge about the object to become apparent. The defining characteristics of *visual simulation* is that it appears to one's consciousness exclusively in the visual modality.

Examples:

Real-world object: So, I took the [auxiliary] lines that I had imagined earlier, these lines coming from the stem and the volume of its boundaries, and it was as if I put a wire on the clay and pulled. I sliced through the apple. But not slowly, as if I saw how the bit that got cut off moved away. It was immediate. And I imagined the flesh inside. [...] I imagined this closer to me. It was not at the same point as where the apple is standing. It was in my mind, closer to me. And I could feel its juiciness and wetness. I didn't know how to draw that. Everything was so juicy. [...] It was as if [pauses] I could see it in my mind. A kind of fantasy. [pause] I can feel its content. I could walk inside of it. I know it is not in front of me. It is in my internal mental space. [...] The space feels as if it is actually in my skull, except it is bigger. It seems more spacious. I don't know if it has borders. Locationally, it feels like it is somewhere here [touches her forehead]. [...] I can go inside of this apple's core and I can see three seeds or I can see one. It depends on what I bring to mind in that moment. And this flesh [pauses] it is not only visual. I find this interesting. I can also feel its scent and taste and how it feels like. This is something that just comes with it. (PPPP-I-01-02)

Mental imagery: It was what I have referred to as pseudo-visual image. Black on black. Essentially, it was an image of a hand. Not the backside of the hand as it was originally, but the palm, as it was in the drawing number two. And I feel as if in comparison to the pear, there was no gesture that cut it open. Instead, it was this [...] X-ray look. A special kind of way of looking that sees into a different layer of the hand. [...] It is as if the top half of the hand is not rendered all the way and you can simply see inside of it. Again, this look is a special kind of knowing that there are bones. This knowing had the following properties: color – it was white. It also had the approximate visual shape of these bones, and very approximately how they are positioned and how big they are. [...] I don't know if this was a whole new gesture. It was as if I stepped back with my attention. I felt the image more than I actually saw it. (PPPP-I-06-02)

Mental imagery: I closed my eyes. And the pear formed. Erm, [pause] I did not have to consciously turn it around. But I immediately saw the shape. The details started to take form as well. First, there was the shape. This burnt-out image. And then it started filling up. It was more me noticing that than doing it. I noticed that the pear is much darker. Not like it were shaded. The actual colors go from dark to light green. And the whole image is more shaded. As if a dusk fell on it. I needed a moment to change the stem, because it was still pointing in the same direction as the first image. I said to myself: *okay, I can see this pear, but the stem is on the other side.* And then the stem turned around. In the very next moment, the image had a rotated stem. [...] I actually said it in my own voice. And I also have a feeling [pause] that I made a gesture with my finger. Saying that it has to be turned around. Accompanying my thinking. It helped. And then I slowly said in my thinking voice: *the stem has to be on the other side.* [...] This was a subconscious gesture. I was not very much aware of it [generality removed] It was a gesture that you make and it is not clear. Like my hands spoke with my voice. (PPPP-I-09-02)

Mental imagery: I had the intention of imagining the inside of the pear, right. Automatically, the whole pear appeared. And then, without words, I decided to halve this pear in my consciousness. Without gestures. Maybe with a previously made intention. And then I automatically imagined it. The actual imagery looked such that the whole pear appeared, and then a second later, it was halved. [...] First, it was whole, and then just a half. [...] It was not as if I created this intention. You said *now, imagine ...* and then my

imagining followed you giving me an instruction. So, it was not as if I made an effort. *You went now, imagine this.* And in that, the intention was already formed. [...] You created it in my mind. (PPPP-I-09-02)

Mental imagery: It was how I imagined the restaurant to look like. So, I actually saw the restaurant. And I had like a specific perspective. Erm, from which I was seeing the kitchen, because there is a window and you can walk past it and from that window you can see into the kitchen. And that is exactly what I was seeing. And then my position was changing, erm, and it was like in a movie when a camera is just moved fluently. And it moved around the corner and into the restaurant, and I could see them placed where the guests come in and where the tables were. [...] I just experienced it by the visual imagination that changed. So, yeah, like, I feel like, [pause] I or my body or anything wasn't really involved in any of it. It was just like watching a movie. Just that it was imaginary. [...] it was more me moving through the space. That's what I meant when I wrote it's 2D. But I wasn't, erm, the way my perspective changed, my camera vision wasn't, it didn't keep being parallel to the first image I was seeing, but it went around about 90-degree curve and that's what gave it a third dimension. (PPPP-II-01-D02-S03)

Embodied simulation

Description: *Embodied simulation* is a hypothetical category that describes mental gestures wherein the object of perception is immediately and intuitively manipulated with a bodily (and potentially also visual) imagination in order for novel detail about the object to become apparent. The defining characteristics of *embodied simulation* is that it necessarily appears to one's consciousness as an imaginary bodily feeling (or tactile imagination). It may also be accompanied by visual imagery.

Examples:

Subjectively veridical object: I was basically looking just at the apple. It wasn't as if I saw my surroundings from the other side, or the chair, or what's around me. It was just this apple. I have this constant awareness where there's north, and when I moved myself to the other side, this north was behind me. I felt myself on the other side. Everything was from the other side. [...] So, [the north] is a point somewhere in the distance. I am always aware of it being there. And wherever I turn, I know that when I check, that point will be there. Approximately. And even if I imagine myself moving, the direction of this point changes. [...] [This point] is a feeling [pause] in a way, I might be a bit drawn there. As if I want to position myself towards it. [...] I feel a bit out of control. If I don't know where the point is. [...] And then, it is awareness that it is behind. As if there is a line, between the point, which is actually quite expansive, and me. I can feel where this line is. Into what direction this vector coming from me points. And if I turn, this vector turns as well. It turns according to me. And this is a background kind of awareness. [...] So, I imagined how the apple looks from the other side. I tried thinking about it logically. How it looks from that side. [...] I don't know how this concrete apple looks from the other side. So, I created its texture in my mind. Where it has the dots. [...] I set its properties. [...] As soon as I imagined it, it already had [pause] So, I had to think some things into being, but when I thought of the dots, they were already there. Precisely where I thought them to be. So, those felt pre-determined. [...] There wasn't a question whether it has these dots there. *What if they are elsewhere?* Somehow that is how it was and that was it [laughs]. I didn't try to change that. Or re-shape it. Somehow, in my consciousness it was like I thought it will be from the get-go. And I didn't change it subsequently. As if I had made my mind about how it will be. [...] So, the apple is fixed. And I had to go around it in this imaginary space of mine. This apple is fixed and I had to go around it. (PPPP-I-01-02)

Subjectively veridical object: I was not even looking at the apple. And I wouldn't say that in the middle of the drawing, I remembered the apple. So, that I would look towards it, and then return to the drawing. It was as if my attention was constantly on the drawing. And then a shadow appeared, or a feeling of how it is to hold the apple in my hand. [Pause] Specifically, this right part at my little finger was involved in this feeling. As if I had the apple in my hand and it was facing me. And this right part of my palm felt as if I feel the apple in my hand. As if it is thicker. Somehow this feeling came into it. I would even say that I felt it in my hand a little bit. (PPPP-I-06-03)

Drawing: It began with a glance at the drawing. The left drawing. The first drawing. And I felt a gesture of rotating. The feeling was as though the apple was turning around. The apple that is the drawing. [...] This rotating is not on the same level of reality as it is here on paper. Spatially, it is approximately here somewhere. As if something was happening to the apple. As if something was happening here. So, there is this rotating. And then, from this rotating the right side, the thicker side goes to the other side. Another way to interpret this is: *now the left side is the thicker side.* [...] There is a feeling of a movement. As if

something somehow nudged against the apple, went against the paper. It was as if some sort of flow happened that then performed the rotation. It is difficult to describe. [...] It was as if I flexed my consciousness and this triggered some sort of movement. Like a tentacle. Or a force vector. It felt like movement in space. And I knew exactly into which direction this movement was going. And this movement [pause] triggered the rotation of this not-really-image. Or rather, it is an image, but I am not familiar. It is not a classical image that would be separated from the physical world. The image was here, on the paper. [...] The image was on the paper, but it was not a physical part of the paper. (PPPP-I-06-03)

It was now more of an image than a memory. I did a similar thing as I did to the pear. Except, now, it wasn't as visually clear that I sliced it in half. There wasn't a blade going across it. But there was a feeling of a gesture going through it. This happened in the depth of the image and went across it. It went across the bottom one. The first one of these strands of smoke. And the first thing that happened was the knowledge that the front part is gone and that I am looking at the tentacle through a cross-section. In the beginning, I couldn't tell the difference, visually. Even though I knew I was looking at a halved thing. There was this gesture that we had often described, this leaning into the gist. This weird zooming into the smoke. [...] There was an awareness of a movement of something. Felt in space. So, at a certain depth in this imagery/memory. It was a feeling of movement. Something that has a shape of a, I guess, a plane. And it had more existence at the bottom and at the top. It gradually became less. This wasn't visual. The existence or presence of a thing in the imagery that was greater at the bottom than at the top. And that moved across. (PPPP-I-06-05)

Mental imagery: So, this weird image – this mixture of imagery and memory – was again followed by this gesture of rotating. But this time, I feel that it was manifested a bit differently. Up until now, these gestures were always pushing against one half of the image and making it turn around. Now, I had the feeling that I kind of went around the right side behind the image and that I obtained the other half by grabbing it by the left side and pulling it around. In a way, in my imagery and memory, the faucet is coming from the left. I grabbed it from the right side and then pulled it so that it rotated. But there is also a difference in gestures. Both felt like rotation. But what then happened to this gesture here was that the image rotated in all of its duality. And this camera, this point of view came from about the same angle, from which I had originally drew it. In here, I think that the image tended more to the visual mode and less to being a memory of a drawing. [...] Location-wise, this was in-between where the memory should have been, where the faucet is and the location of the piece of paper below me. As if it was above the paper, but a little bit to the left. [...] I didn't pull it with my hand but with a kind of, erm, attentional appendage. Somehow, the same energy of movement that so far pushed against one half of the image, now reached out around the right side around the image, grabbing at the left side and pulling it. [...] [The emotional appendage] is felt more or less as a movement. A movement in space. [metaphor removed] A force vector basically extended in space. It bent around the image and went to the left half of the image. The actual experience of this is very spatial. So, it went away from me, to the right, turned to the left and then back towards me. And during this way back, the image rotated. (PPPP-I-06-06)

A feeling of partial embodiment is moving. But it is not an entirely bodily feeling. But it does feel as if it has a body. But not really embodied. At least for now. It is in my gaze. As if you have eyes that are always present. There is no bodily presence. It is just some sort of looking. A gesture of looking where the eyes are present. But not a bodily feeling of eyes, which I can also feel now. [...] There is a stable feeling when I transition into space. There's a difference again. A felt difference. There is a sense of a membrane being a bit [pause] I don't know. As if the Earth is in a membrane that is permeable or semi-permeable and then you get this little *plyup*. Something like that. It feels sonorous, but not really. And there is a feeling as if something had passed through. A bubble forms. But again, not really. There is a stable point where I can detect that something is different beyond it. On the basis of that, I feel that it is something stable. It is not the same as before, when I was travelling across the sky. I reached a kind of [pause] difference. (PPPP-I-12-06)

Contextual simulation

Description: *Contextual simulation* is a hypothetical category that describes mental gestures wherein the object of perception is immediately and intuitively manipulated with bodily, visual, and spatial imagination in order for novel detail about the object to become apparent. The defining characteristics of *contextual simulation* is that it necessarily appears to one's consciousness as a multimodal image. The entire immediate context is recreated in one's mental space and subsequently manipulated. Typically, during *contextual simulation*, individuals may see their own body recreated in their imagination (when, for example, rotating the whole scene).

Examples:

Process: And what I did was this gesture of rotating. [...] It is very similar to what I did that other time with the apple. If you remember the first apple, and then when I was drawing the second apple was as if I performed this gesture of rotating upon the drawing of the first apple. I feel this is similar. As if I directed my attention towards one side of this visual image of the memory in such a way that movement happened. And this movement was as if the whole thing turned around. I had a reasonably clear, reasonably vivid visual image of this rotation. In a way, everything rotated so that the three strands of smoke went through or past the camera that is observing them. Past the viewpoint. And in the middle of that, it weirdly became clear that they are not on the same level. That the middle strand is pointing in a different direction than the other two. And then the rotation completed. [...] This rotation is felt. It is something that I did. Or at least triggered. It is a part of my motion. Or movement. Of this image. The movement of the smoke, however, is part of the image. It is not something that I cause, but it is something that I observe on this image. [...] In a way this wasn't the me that is looking. The me that is observing. The me that is beholding. This image/memory – I actually find it very hard to distinguish between memory and imagery, but it was more of an image – this is more of an awareness of me in terms of: *oh, this person in the image, or this person here on the picture, that is me. That is my body.* Or rather, *this is a representation of me.* It is not the locus of experience, but some sort of mimesis. [...] The gist of me was present in the background. A knowing that what can be developed there is the image of a person that should look like the person in the photos of me. Like the person that shows up on the mirror when I step in front of it. (PPPP-I-06-05)

Subjectively veridical object: I had a harder time starting to draw this one. Mm, I was looking at the apple, and I tried to shift my perspective. To rotate the image in a way. How it would be if I were on that side. How the light would appear and such [...] this was again a mental image. But it was not too detailed. Something somehow passed to this side, and I was looking at myself from the opposite side. From behind this apple. Not in detail. Just a shape of myself. No face. Just where my hands are, where my head is. A bit of surroundings as well. [Pause] It is really not that detailed, the image. I have to make an effort in order to construct it in my mind. It did not happen automatically. I have to really consider it. (PPPP-I-09-01)

So, I went into my own hand. That was the closest thing. It felt as if I somehow moved from this part of my head and neck forwards into the wrist. Inside of it. In the middle of it. Erm, and then it felt as the world around me as I am sitting in this room obtained a different perspective. I see it differently. The entire environment in which I am changes. At least partially. To an extent. In front of me, I can see or detect a warmth. And transition. As if it is driving past me. I mean, something goes past me. Blood, probably. And in front of me, I am detecting something hard and thick and solid, which is probably bone. Erm, and then I can decide and make a gesture and go forward into it and at one point this field opens up, or rather a space, in which I am. And I can feel more warmth to my right. To the left and to the right. It is soft and warm and somehow also hard. I can move around this substance from this position. I don't quite know where it begins and ends. But it feels as if at some point, this warmth runs out. This flesh runs out. It literally feels like warm flesh. Living flesh. [...] First, there was my wish, motivation, intention. Whatever. And then when I decided to do it, then it somehow happened. But I don't know exactly how I shift myself there. I need a space into which I go. and then the decision to go there happens. And somehow the space around me changes. The space in which I am located. (PPPP-I-12-01)

I was aware of the driver as him being [...] I was aware of him as some sort of aura which was located at the front of the truck, but funny on the right side of the truck [...] I think it was like a [pause] like this location had some sort of importance to me. But I cannot really say that I saw it or that I felt something about it. I was just like more aware of this location. So, I kind of see the environment and I kind of know that something is there. Although I cannot see it or feel it. It is the knowledge of something in there. [...] It was weird because it was like a twofold experience: I was, erm, like I knew that this visual imagination was located at the front of the truck, but at the same time it was located directly in front of me. Yeah, that was this kind of me being partially in my real position and partially in the position of the truck driver. (PPPP-II-01-D04-S02)

Constructing dimensionality

Definition: The hypothetical category *constructing dimensionality* describes an experience wherein through a specific mental gesture (that consists of a change in focus between the surface of the object and inside of the object), individuals may modulate whether an object of their perception appears to their consciousness as two- or three-dimensional, respectively.

Subcategories:

Deepening;

Flattening.

Deepening

Description: *Deepening* is a hypothetical category that describes the experience of making an object of perception more three-dimensional in one's consciousness. This is typically done by focusing one's gaze inside of the object.

Examples:

I think it has to do with looking not on the surface of it, but into it, if that makes sense. I don't look at the surface level of the object, but I kind of pay attention to this brightest part of it, it's kind of the top of the flame and I, I look inside of that, like if I theorize a little bit – I look inside, where I would expect the locus of its being to be, right? (PPPP-III-01-02)

Flattening

Description: *Flattening* is a hypothetical category that describes the experience of making an object of perception more two-dimensional in one's consciousness. This is typically done by focusing one's gaze on the surface of the object.

Examples:

Initially, I was looking at the 2D shape of the apple. I was looking for the edges. [...] I wanted to see an apple on a white piece of paper. And it started with observing a 3D image. I wanted to separate the apple from the background. I was not focusing only on the apple, but I was looking at how the edge traverses. [...] This was happening to the actual apple. From the point of view from which I am observing it. [...] I actually paid more attention to this edge of the apple. The edge as I see it. Because if I am looking at it from this perspective, I can comprehend the apple either as a 2D or a 3D image. But then I was also observing what the edge actually is. I was paying attention to the plane on the edge. That the edge is beyond it. So, I tried to see it only from my perspective, as if there is no 3D image beyond it. (PPPP-I-09-01)

Subjectively veridical object: I can flatten it in my mind. But I very rarely use this technique. I can imagine it being 2D. But it has to be perfectly still. You can't move around it. It's difficult. It's the same. But it gains a layer of my own moves, auxiliary lines over it. And I don't actually see those. (PPPP-I-01-02)

I'm seeing the street and the truck in front of us. And also our car's interior. I was directing my attention to the truck. It was almost like there were bright contours around the truck and it seemed a bit detached from the surroundings. Like a paper in front of a background. [...] I felt like there is, the surrounding, so the street and the trees, like, the environment, it felt like the truck was a completely separate object that is somehow closer to me than the surroundings. So, the surroundings are like a background, and the truck is more to the front. Erm, and the more I thought about this when writing the inscription, the more I realized that this detachment was present in the contours of the truck being bright. Like very thin, em, and not clearly visible, but they are bright contours along the outline of the truck. [...] I feel that it was two-dimensional. The background and the street was two-dimensional and the truck was two-dimensional as well. It was like two papers. One paper had the environment, one paper had the truck and the paper with the truck was closer to me. (PPPP-II-01-D04-S02)

Veridicality-construction

Description: *Veridicality-construction* is a hypothetical category that describes the experience of individuals constantly causing an object to be apparent in their consciousness. In other words, some individuals become aware of how it is the consequence of a continual gesture of construction wherein objects are brought to the foreground of their awareness as objects from undifferentiated visual space.

Examples:

I was seeing the whole tree, like a figure portion of the tree and I was aware of my eyes starting to move more rapidly and the image, kind of, becoming fainter. And then afterwards you didn't say okay, so I tried to bring my attention back to the pear. And the image kinda stabilized more but I was still seeing a larger fraction of the tree and the pear hanging there. (PPPP-III-02-01)

There was something like that happening very pronouncedly on the left side and then ahm, there was also something else visually that appeared shortly before you interrupted me and I was seeing it in that moment – there was just this kind of [pause] darkening, ahm, but it seemed like - so there's two layers of what I'm seeing and one of them remains kind of clear and to me it seemed that is the things that actually are outside in the world and the other is artifacts of me observing it for a longer time without blinking and so on – so this darkening felt like something that is happening on my eyes. So, there is a second layer that becomes a little bit darker. And, ahm, so that's the visual. Should I move on to, ahm, the other aspects of the experience? (PPPP-III-02-03)

And the weird thing was, because I was looking at one point, it seemed sort of around this point where I was looking at, the bottom and the top where the fingers are, from second to second it started to fade out, so it was more and more white and then my eyes would automatically readjust and they would get clear again. And so immediately before you stopped me that's what happened – it got clear again. It changed in that discrete moment from being very faded pale pink to kind of popping out again and there was again more colour than before. Ahm, but that was a field of colour, of this; a field of changing colour, ahm, yeah. [...] It felt as if the background was kind of eating it up. It felt like it was disappearing in the background or as if a fog was covering it. Ahm. None of this really applied. There wasn't any spatiality to that, it just became sort of brighter, so either thing applies. Ahm. [pause] And the reason why I said it felt like I am; all of these things felt like an optical illusion, because it felt like all of this is happening on a screen and I'm not doing anything to it or that it's happening in my eyes, it felt like this was; the picture was changing, but then my eyes readjusted and the picture popped out again. [...] Mm so what happened throughout was there was this: I'm looking at the computer screen and I start feeling this slight burning sensation at the periphery of my eyes [pause], or I think it was just the left eye for some reason, it just felt like the periphery of my left eye, and then what happened kind of automatically there was the sense of [pause] ahm, please tell me if this resonates with you, like my eyes kind of went - or, physically my eyes must have - kind of went back a bit and then refocused on the screen. Like there was this sense of baaaaack – forward micromovement just [camera sound effect] readjusting. [...] I'm familiar with this experience from doing tedious psychological tasks where I'm trying to; where I have to look at the screen and pay attention to some boring triangles flying around and then I will readjust my focus, it feels – that's where I know it from. Ahm. And so whenever - and that was automatic, I didn't do that, it happened to me – and whenever I did that then the colours would repop, or the misty thing would disappear. Ahm. And so that happened like, the colours are fading, my eyes readjust, everything is clear, then you stop me. So, that was kind of what happened immediately before [...] And, and that then kind of, at some point it becomes super intense and then my eyes do the readjusting thing, yeah. And that kind of, it feels like that led to the readjustment or, however we're gonna call that. [...] So, what happened in that moment that all of these layers that are now kind of here and the “shhhhhk” – oh, yeah; this is, yeah, yeah, yeah, that's what happened: When my eyes readjust, the layers get closer and they kinda began to separate a bit again and then you stopped me and then that was it. Yeah. Yeah, yeah, yeah. So,, it felt like; that's what the readjustment of the eyes – these separate layers, spatially separate layers kind of “shhhkk” [sound effect] go back close together. Yeah. Yeah, yeah yeah. Ah, that's a – oh, wow – that's an insight, I wasn't aware of that. (PPPP-III-01-04)

Considerations: The category *veridicality-construction* is problematic. While it appears in all three phases, it only appears among moderately suggestible individuals in PPPP-I and PPPP-II. Further, in PPPP-III, it appears with the two participants who have the most experience with meditation. It therefore stands to reason that *veridicality-constructing* is a) consequence of demand characteristics; or b) aspect of experience that is associated with an altered state of consciousness. As the goal of this study was to investigate phenomenological properties of perceptual presence in normative states, the latter possibility falls beyond the scope of this project. In future studies inquiring into perceptual presence of altered states of consciousness, deference should be made to *veridicality-constructing*.

General description of visual consciousness

Description: *General description of visual consciousness* represents our early investigative strategy for understanding the phenomenology of perceptual presence: outline a general description of visual experience and then discern parts of it that could be identified as perceptual presence. In particular, we identified three poles or visual domains within which we can categorize visual experience. Veridicality (i.e., veridicality of an object) was detected in this account as well.

Subcategories:

Veridical distance;

Poles of visual consciousness.

Considerations: The category *general description of visual consciousness* was abandoned as during PPPP-II it became apparent that different phenomenological aspects of perceptual presence are directly observable in subjective reports (and therefore do not have to be indirectly inferred).

Veridical distance

Description: *Veridical distance* is an aspect of experience wherein objects that belong to one's consciousness are experienced as closer to oneself. This distance is not the Euclidian distance of physical space. Rather, it is distance as it pertains to the relationship between one's lived body and lived space. Objects that are subjectively experienced as belonging to the world are experienced as being more distant.

Examples:

Far distant. Like in distance. Far distant. Difficult to, erm [pause] yeah, as a thing in the world. As something separate from me. [...] In the first sense, it's [pause] difficult to [pause] to reach. I have to repeat. Like far distant. This is this sense of I have to do something in order to [pause] erm, to [pause] to get in touch with it so to say. And actually, at the same time, somewhat unreachable[...] Attentively, it is a gesture of strong, erm, [pause] again, outward focus. It is leaning forward. My body is rather I tried. Not leaning forward, is that right? Hunching, bending forward. More tension in the body. More ... [...] Like it is, it is not only reaching out with the body or bodily sensations. It is also this attentive tension. Maybe I misunderstood your body schema, or body kinaesthetic. [...] In that moment, when it felt unreachable, it felt already difficult to reach. Reaching it was impossible. I need to do something again. I need to invest some effort to get there. And this, yeah, this describes it, I guess. Shall I say more? [...] In the sense that it is different from me. I experience in that moment, I experience it as something in the world. Something distant. Something that is not me. It is very much, actually, similar to what I said right at the beginning, about far distant, and so on. It is a similar sense. Like, this is not me. There is a sense of me in that moment. And my Buddhist background is trying to scream right now. (PPPP-I-11-02)

My visual imagination happens close to me, maybe even around me but everything is smaller than in a real environment. And I have no sense of my body or myself being present in the scene. I'm just an observer. I'm creating it. (PPPP-II-01-D05-S02)

Poles of visual consciousness

Description: *Poles of visual consciousness* refers to three fields of visual experience: one that is externalized beyond one's body and is identified as the perception of the subjectively veridical world (the *objective pole*), one that is internalized within one's head (the *imaginary pole*), and the interaction between them (the *subjective pole*).

Subcategories:

Objective pole;

Subjective pole;

Imaginary pole.

Considerations: A major part of coding of the *poles of visual consciousness* was an attempt to visually depict the relationships between the three poles. A schematic representation is present in Image 2.



Figure 2. Schematic representation of poles of visual consciousness.

Figure 2 represents an integration of the data on visual consciousness gathered in this study as well as data presented in Oblak (2020), where one of the task parameters was having participants draw a bonsai tree. The concrete bonsai tree, furthest to the left, represents the *objective pole*. The world as it is uncovered with our senses. The *imaginary pole* is represented by a field extending from the observer's body. While it is primarily localized to one's skull, it may include the whole of one's body, as well as the externalized space that is not covered by the visual field (in Image 1, this is represented by the area colored in with parallel lines). Finally, the *subjective pole* is an area of interaction between the world as uncovered in perception and the constructive capacities of imagination. This is the space where, for example, when drawing, one might project a geometric structure upon the motif, as noted in the image itself.

Objective pole

Description: *Objective pole* refers to the part of visual experience that is judged to belong to subjectively veridical world. It is experienced as concretely existing and detail about it is discovered rather than constructed.

Imaginary pole

Description: The *imaginary pole* is the part of one's mental space that is localized within one's head. Commonly, imagery here is very clear and it takes many forms, not just visual or spatial.

Subjective pole

Description: *Subjective pole* refers to the part of the visual experience wherein imaginary, mental constructs are projected into external world and are commonly merged with it. This experience is commonly described as a parallel world to subjective veridicality, and the observers can readily shift their attention between the two worlds.

Examples:

It's like the phone screen seems bigger to me than it actually is. It feels like it fills all the visual field, although it didn't in real life. It is like the phone screen is brighter and clearer and more colorful than surroundings. I think that was the case also in real life. Erm, but this was like I was more aware of it. [...] They [the body and the car] were all very blurry. I was still aware of them. I can remember seeing them, their colors. But they were just out of focus. [...] So, I kind of feel like I am taking the screen. Erm, or

taking what the screen shows from my phone and turning it. And it's like on the one hand it feels like I am turning my hand so that I would see the screen from another perspective, but at the same time, the screen turned more than what I would be able to achieve by just turning my head. So, and it was pretty effortful. I think that was the main characteristics that made me feel like I am operating on it. Like, I had to really concentrate. To do it. [...] I kind of detached it. From the environment. Erm, [pause] and kind of kept it somehow [pause] in my head or something. Like, I can't really say the exact location but I feel like I kept it somewhere close in my head or my body. It got closer to me. I turned it. And as soon as I turned it, it was quite fast and I put it down on the actual screen's location as soon as I imagined to turn it. I put this new-turned screen into my environment, or into my phone. It felt like that was quite relaxing. I feel like now that is settled and I don't have to think about it any further. [...] It is still at the same location, more or less, but it feels less embedded. So, it doesn't feel connected to the real environment anymore. (PPPP-II-01-D04-S03)

I actually see, erm, or imagine the image of a tick on my finger. But it's less real than the real insect in the way that I couldn't give you any details about how this imagined tick looks like. It is more of a general perception of a tick. But, for example, from my imagination, I couldn't count how many legs it has. And I couldn't say what is the exact color of the tick, or if it is lying on its back or its belly or whatever. [...] I just see a tick but it is blurry and it is kind of, erm, darker. So, I would say when I think of the imagination of the tick, also the background is different from what I see in the real life in a way that everything around is more blurry and darker. So, I cannot really say what I see at the edge of my visual imagination. I just know that there is a tick. I see a tiny bit of my finger, but it is more the color of my fingers. And the rest is, erm, I don't know, it is like dark on the edges. (PPPP-II-01-D05-S01)

6. References

- Flick U. (2009) *An introduction to qualitative analysis*. Sage Publications, London
- Fusch P. I. & Ness L. R. (2015) Are we there yet? Data saturation in qualitative research. *The qualitative report* 20(9): 1408–1416.
- Hurlburt R. T., & Heavey C. L. (2006) *Exploring inner experience*. Johns Benjamins, Amsterdam.
- Kerr C., Nixon A., & Wild D. (2010) Assessing and demonstrating data saturation in qualitative inquiry supporting patient-reported outcomes research. *Expert Rev Pharmacoecon Outcomes Res* 10(3): 269–281.
- Kordeš U., Oblak A., Smrdu M. & Demšar E. (2019) Ethnography of meditation: An account of pursuing meditative practice as a tool for researching consciousness. *Journal of Consciousness Studies* 26: 184–237.
- Nelson, J. (2017) Using conceptual depth criteria: addressing the challenge of reaching saturation in qualitative research. *Qualitative research* 17(5): 554–570.
- O'Reilly M., & Parker, N. (2013) 'Unsatisfactory Saturation': a critical exploration of the notion of saturated sample sizes in qualitative research. *Qualitative research* 13(2): 190–197.
- Oblak A. (2020) Visual representation in the wild: Empirical phenomenological investigation of visual-spatial working memory in a naturalistic setting. *Constructivist Foundations* 15(3): 238–250.
- Schwartzman D. J., Oblak A., Rothen N., Bor D. & Seth A. K. (2020) Extensive phenomenological overlap between induced and naturally-occurring synaesthetic experiences. *bioRxiv*. <https://doi.org/10.1101/2020.08.03.228692>