

# ANTI THESIS

## Towards a doctoral framework for embodied artistic research

Janneke van Leeuwen, 2020

### Abstract

The traditional model of knowledge transfer in academia has for centuries been a written thesis. Embodied experiences have been discarded as an unreliable source of knowledge acquisition in Western societies.

In this essay I will argue the case for the inclusion of other dimensions of knowledge acquisition and transfer that artistic methods can tap into par excellence. I will set out how embodied artistic research can engage with multimodal neural knowledge systems, drawing on novel insights from my research on the intersection of social neuroscience and visual art. Different elements of embodied artistic research will be contextualised in the Social Brain Atlas, which I have drawn based on the largest meta-analysis of neuroimaging studies on social cognition to date by Alcala-Lopez et al. (2017).

Using the 'Creator Doctus' pilot by the Gerrit Rietveld Academie in Amsterdam as a guiding example, I will discuss the unique requirements and challenges of creating a European doctoral framework for embodied artistic research programmes.

Especially in the wake of the coronavirus pandemic, investigating and redefining our deep entanglements with the material and embodied world is more urgent than ever and advanced artistic research should lead the way.

### Introduction

What is the language of knowledge? According to the academic consensus, it is verbal. Even art colleges have conceded the hegemony of textual education, and require that students complement their artistic creations with a written critical reflection in order to obtain an academic degree.

Ironically, the Athenian philosopher Plato (429?–347 B.C.E.), founder of the *Akademia* school during the Classical period in Ancient Greece, was wary of relying on writing in higher education. In the dialogue *Phaedrus*, he argued:

'If men learn this, it will implant forgetfulness in their souls; they will cease to exercise memory because they rely on that which is written, calling things to remembrance no longer from within themselves, but by means of external marks.'

Plato anticipated that learning from text would separate mental activities from embodied experiences and impair memory rather than enhance it. The course of history has shown that Plato's warnings were not heeded however. The emphasis on the written word as the core vehicle for knowledge transfer is most prominent in the doctoral degree, the highest academic qualification that can be obtained.

A solely verbal approach to doctoral research can only lead to partial insights however. I will demonstrate this by offering an interdisciplinary perspective based on my own doctoral research in which I combined artistic and neuroscientific research methods. I will focus on the theoretical framework of my research and set out how multimodal aspects of art connect to the four hierarchical functional networks of the Social Brain Atlas, which I visualised based on the work by Alcala-Lopez et al. (2017), who conducted the largest computational meta-analysis on social cognition to date, comprising of 26 meta-analytical studies of in total 3972 functional neuroimaging studies and involving all together 22712 healthy adults.

Embodied artistic research requires different supervision and examination processes than currently allowed for in the European guidelines for doctoral research. I will discuss current institutional obstacles and propose a model for the supervision and examination of embodied artistic research.

I will support my arguments with combined insights from my research on relationships between art and the social brain networks and the first pilot of doctoral embodied research that has been led by the Gerrit Rietveld Academie between 2016-2019. This pilot has taken place in partnership with an international consortium consisting of Glasgow School of Art, Ecole nationale supérieure d'arts de Paris-Cergy, Merz Akademie, Stuttgart, Royal Danish Academy of Fine Art, Copenhagen, Vilnius Academy of Arts, Athens School of Fine Arts, EQ-Arts, Amsterdam.

I will start by describing the current European consensus criteria for doctoral research programmes, including doctoral research in the arts. Following from this, I will argue why these guidelines should be expanded to include embodied artistic as a legitimate research method in its own right.

### **Doctoral research consensus criteria**

The Salzberg Principles, defined by the European Universities Association in 2005 as part of the Bologna Process, describe 10 basic principles for doctoral research programmes. The 1st principle states that the core element of doctoral training is:

‘the advancement of knowledge through original research.’

The following 9 principles describe various conditions that doctoral programmes should create to satisfy the 1st principle. However, the expectation that the outcomes of the doctoral research are ultimately presented in a thesis is so self evident that none of the 10 listed principles mention other possible modes of knowledge exchange.

The closest hint in that direction can be found in the description of the 8th principle, which highlights the value of embracing innovative research structures that facilitate interdisciplinary research:

‘Fast development of the sciences and the emergence of new disciplines and problem-oriented research funding often combine different fields and “pull down” the boundaries of traditional disciplines opening the way to multidisciplinary. Doctoral training should reflect this development by offering innovative ways of research education. Structures and curricula should be open and flexible

enough to allow doctoral candidates to undertake research and theses based on interdisciplinary approach.’

In 2006, the European League of Institutes of the Arts stipulated the Florence Principles that aimed to complement the Salzberg Principles by elaborating on the criteria of doctoral research that are specifically relevant to doctoral research in the arts. The Florence Principles define the artistic doctoral work as ‘the dissertation project’ and the full description goes on to say it:

‘includes the development of an original and concrete artistic research project. This project uses artistic methods and techniques, resulting in an original contribution to new insights and knowledge within the artistic field. The project consists of original work(s) of art and contains a discursive component that critically reflects upon the project and documents the research process. Internationalism, interdisciplinarity and interculturality are implicit in many artistic practices and can benefit from doctoral programmes in the arts.’

What stands out is that the European League of Institutes of the Arts chose to characterise artistic doctoral work within the Florence Principles as the ‘dissertation project’, which appears to reflect a deference to the academic tradition of producing a thesis. The implicit assumption that verbal language represents the highest order of thought production is further demonstrated by the requirement of

‘a discursive component that critically reflects upon the project and documents the research process.’

While the Florence Principles expand on the modes of doctoral research that are described in the Salzberg Principles, they fall short of acknowledging artistic creation as a legitimate method of knowledge advancement in its own right. To demonstrate why this would be justified, I will discuss recent insights from research on relationships between art and the social brain networks that regulate how we interact with and give meaning to the worlds we live in.

### **The social context of art**

Before I can set out how art connects with different knowledge systems in the human brain, it is necessary to formulate a definition of art. For this purpose I will use a modified version of the definition I employed in my doctoral research on relationships between visual imagination and the social brain (Van Leeuwen, 2020). While my doctoral research focused on visual art, the definition I formulated is equally applicable to other forms of art as well.

Since the late 19th century, artists and curators have progressively challenged our understanding of art and its place in the social world. Today the only consensus seems to be: Anything can be(come) art. But if art can be anything, how can it be identified? I believe that the answer to this question will always be dependent on the context in which it is being asked. For instance, the curator of a contemporary art museum will have very different criteria for evaluating whether something is (good) art, than a neurologist who takes an interest in the artistic self-expressions of a patient. My point of view is therefore that art is a social construct, which only has meaning

in relation to the dynamics of a cultural context it exists in. With this in mind, I propose that two conditions have to be met for something to be considered a work of art:

A. The object or action is presented with artistic intent in a cultural context.

B. The object or action is validated as art in a cultural context by an authority and/or a community.

By these criteria, art is defined by a complex interaction between artistic intent, expressive qualities and cultural validation. It is deliberately not an attempt to qualify what good art is, as this would suggest that universal principles govern artistic merit more than cultural value systems. The key role of social context in this definition of art is supported by a growing number of neuroimaging studies that have shown that people's personal values and their internally constructed world models are reflected in the way they respond to art.

I will next outline how embodied artistic research can engage with different sensory and thought modalities in the human brain, focusing on the primary sensory cortices and the four hierarchical processing levels of the Social Brain Atlas (Alcala-Lopez et al., 2017; Van Leeuwen, 2020).

### **Art and the social brain dynamics**

Personally strongly moving art can co-activate two major neural network dynamics, the so-called Default Mode and the Task-Positive (executive-control) Network, which are otherwise often anti-correlated (Cela-Conde et al., 2004; Cela-Conde et al., 2013.; Fox et al., 2005;

Ishizu and Zeki, 2011; Ishizu and Zeki, 2013; Vartanian and Skov, 2014; Vessel et al., 2012; Vessel et al., 2013).

What this means is that when people strongly resonate with art, outwards and inwards focused brain dynamics that are usually suppressing each other are simultaneously recruited.

This network coupling is thought to occur when integrating different memory modalities is required for optimal mental functioning and has been found to play an important role in self-relevant and social, as well as creative thought processes (Alcalá-López et al., 2017; Amodio and Frith, 2006; Beaty et al., 2014; Beaty et al., 2018; Chatterjee & Vartanian, 2014; Ellamil et al., 2012; Margulies et al., 2016; Sestieri et al., 2011; Spreng and Grady, 2010).

These findings suggest that art can offer us a window to reflect on the complex interactions between the outside world and the worlds inside our heads (Van Leeuwen, 2020).

### **Primary sensory cortices**

Visual, auditory and somatosensory information (bodily positions, touch and other sensations such as pain and temperature) enters the brain in specialised areas that are spread throughout the brain.

Visual information is first processed in the primary visual cortex, which is part of the occipital lobe. Auditory information is first processed in the primary auditory cortex, located in the temporal lobe on each side of the brain. Tactile and other bodily information is first processed in the primary somatosensory cortex in the parietal lobe.

On the level of primary sensory processing, embodied artistic research can advance knowledge through experimentation with basic elements of sensory stimulation.

Artists who create through making develop a sophisticated understanding of sensory qualities which they can apply to expand the experiences of the physical world of their audiences. These insights can also be of great value in neuroscientific research, by contributing to the design of experiments that aim to investigate the mechanisms of sensory processing.

### **Perception Network (Figure 1)**

The Perception Network is the first processing level in the Social Brain Atlas. Its core hubs are specialised in analysing sensory and spatial features of social behaviour, with an emphasis on visual processes. It plays an important role in analysing the spatial qualities and the perceptual features of art. Lines and shapes are combined into meaningful forms and movements in space and integrated with other sensory information.

On the level of the Perception Network, embodied artistic experimentation can investigate how multimodal elements of sensory stimulation become integrated experiences that are contextualised in time and space.

### **Animation Network (Figure 2)**

The Animation Network is the second processing level in the Social Brain Atlas. It plays an important role in attributing personal and emotional value to our experiences as well as creating, retrieving and updating dynamic internal representations and multimodal memories.

This network is associated with people's imaginative abilities and their affective responses to art.

Emotional responses are hard to model let alone capture, but embodied artistic research is a far more suitable method to investigate emotional dimensions of human experiences than lab-based experiments. Experimentation with static and (implied) dynamic perceptual elements through embodied artistic research can also further our understanding of the Animation Network.

### **Interaction Network (Figure 3)**

The Interaction Network is the third processing level of the Social Brain Atlas. It contains core hubs of the so-called Salience Network, which weighs internal states against incoming sensory information to regulate social behaviour. It also consists of brain areas which regulate speech production and a mirroring behaviour system (functionally aligned with mirror neurons discovered in primates) that is thought to underpin empathy and mentalising skills.

This network is considered to play an important role in mediating between incoming sensory information and the construction of meaning. It is involved in evaluating the subjective value of art and creative output.

The very essence of embodied artistic research is to investigate how the material world and sensory experiences take on symbolic meaning in a cultural context. It is therefore an ideal method to elucidate the mechanisms of the Interaction Network.

#### **Construction Network (Figure 4)**

The Construction Network is the fourth and highest processing level of the Social Brain Atlas. It corresponds anatomically with the so-called Default Mode Network and plays a crucial role in creating internal models of ourselves and others in relationship to the world around us. This network also contains the semantic language system, which regulates our knowledge of the symbolic meaning of things. The Construction Network integrates multimodal knowledge systems to give personal and symbolic meaning to the world around us. It plays a key role in the appreciation of art, as well as generating and critically evaluating creative thoughts and artistic expressions.

The constellation of the Construction Network shows that our most complex thought processes are multimodal and not solely verbal in nature. Given the strong reliance on verbal language in doctoral training, embodied artistic research could make important contributions to furthering knowledge on the complex thought dimensions of other modalities, such as visual, auditory and bodily thinking.

The ability of art to engage with different processing levels of the human brain, underlines why it is of great importance to grant the creative arts legitimacy as an embodied research language and transfer method.

Placed in the context of the profound changes to societal structures and public life that have been caused by the coronavirus pandemic, embodied artistic research can play an important role in restructuring our internal and external world models.

The Gerrit Rietveld Academie in Amsterdam, under the leadership of Prof Jeroen Boomgaard, is currently leading an international pilot that spearheads this embodied approach to artistic research. The aim of this 'Creator Doctus' doctoral programme (co-funded by the Erasmus+ Programme of the European Union) is to enable Higher Arts Education Institutions in all countries signed up to the Bologna Declaration to be able to independently enter into the 3rd Cycle level with an award recognised at the same level of, and equivalent to, PhD.

In the publication 'Creator Doctus: Designing the third cycle of art education' (2018), the regulatory framework of the first Creator Doctus pilot is presented, along with reflections on the research programme by various stakeholders. Boomgaard describes the motivation to develop a purely practice-led doctoral research programme for the arts as follows:

'It is not so much that an artist should not or would not be able or willing to write a dissertation – some of them are very keen to do so and are good at it – but the university demands and expectations are dominant in that approach, overshadowing the specific and exceptional character of artistic research. That specificity is situated largely in performative, visual and auditory research methods and results that elude existing discursive communication and are not prepared to submit to all that we understand by the term logic.'

I will next expand on the requirements and some of the challenges of creating a doctoral framework for embodied artistic research.

#### **Doctoral embodied artistic research**

The first requirement for a doctoral framework for embodied artistic research is setting out the parameters for the scope and duration of the research.

The recommend standard in the 7th Salzburg principle (2005) is 3 to 4 years for full-time doctoral training programmes. However, it also recognises the need for flexibility and the facilitation of part-time doctoral studies which are often undertaken by students who have caretaking and/or professional responsibilities, in accordance with the Lisbon objectives, which emphasise the importance of continuous education in the knowledge based society. The pilot of the 'Creator Doctus' programme at the Gerrit Rietveld Academie started in 2017 and required a part-time commitment over a period of 3 years, to allow the artist enough time to maintain their independent art practice alongside the doctoral research.

In line with the pivotal role that cultural context has in the creation of artistic work, the scope of the Creator Doctus research was defined in conversation with a partnering social institution, which embedded, supported and supervised the artistic research process. After this first trial, the duration and research scope definition process of the Creator Doctus programme will be evaluated and if needed adjusted.

Embodied artistic research that is part of an interdisciplinary doctoral trajectory, which will produce a thesis for the research undertaken in the other discipline(s), faces its own institutional challenges. It is currently only possible to submit exam entry forms for either a thesis-based or a practice-led PhD.

However, both PhD trajectories require a written thesis. The difference between the two trajectories is that a practice-led PhD involves a less substantial thesis and a body of original artwork, as described by the Florence Principles.

To allow for a purely embodied component of doctoral artistic research, amendments need to be made to both the exam entry forms and the formal assessment procedure. I will discuss some of the challenges of the formal assessment of embodied artistic research in a doctoral framework next.

The first component of the formal assessment is the progress evaluation of the artistic research, which falls under the responsibility of the doctoral supervisors. Artistic creation is often not linear and can come about in bursts of high intensity output, coupled with long phases of incubation and sometimes stagnation. Applying a rigid model of periodic assessments that aim to monitor tangible outcomes could therefore work counter-productive. Boomgaard (2018) describes how the Creator Doctus pilot approached the artistic research trajectory:

'It was clear to us that the Creator Doctus CrD is much less of a training course than the PhD. In so far as one can speak of training and supervision, it targets primarily the way in which an existing creative practice finds a new focus in research practice: the artist becomes a creative researcher/researching creator.'

This proposed definition suggests that progress evaluations of doctoral artistic research that takes an embodied approach should focus on the research dimensions of



the artistic process. In other words: how does the creative process investigate the research theme? The four hierarchical processing levels of the Social Brain Atlas that align with different neural knowledge systems could offer a guideline to evaluate the development of the artistic process:

1. Sensory and perceptual aspects
2. Emotional and dynamic aspects
3. Interaction and social value aspects
4. Construct and cultural context aspects

A multi-media log could be kept between supervisors – including partnering social institutions – and the artist to document the artistic research process along these four axes of embodied experiences.

This approach would be broadly in line with the description of the doctoral artistic work in the Florence Principles, but with less focus on a ‘discursive component that critically reflects upon the project and documents the research process’. The justification for this is that not all intelligent thought can be verbalised. This is especially often the case for artists, who can show great depth of understanding through their artistic work, without necessarily being able to match this level of eloquence when asked to explain.

The requirement of a critical discursive element is also problematic in the context of the examination and defence of the doctoral work; the second component of the formal assessment. Boomgaard (2018) reflects on this as follows:

‘Of course, the researcher/artist can explain the steps that have been taken in the research and list the choices and considerations. We have decided that a

short-written report should be enough for that. And those choices and steps can be called into question and discussed. But it is difficult for the artist to answer the question of whether the research has been successful, or whether the result is right and, if so, what makes it right, or whether the work does what it wants to do, without lapsing into a kind of apology that is unconvincing and does not make the result any stronger.’

It would be tempting to conclude that artistic research is harder to judge on its quality, as artistic value is a subjective judgement. In truth, other branches of academic research are equally grounded in social and cultural context and judgement of its quality often changes in the course of time. The main difference is that there are no consensus frameworks to evaluate artistic novelty and quality, whereas consensus knowledge frameworks do exist in other academic fields (but even then, fierce disagreement still arises often).

A possible model for the examination and defence of embodied artistic research in a doctoral framework could align with the procedure in the United Kingdom, where it is called ‘viva’. Viva is short for ‘viva voce’ which stands for an oral examination, typically for an academic qualification (Oxford online dictionary, retrieved 24-02-2020). The exact rules of the doctoral viva differ for each academic institution, but it is custom that it takes place behind closed doors with at least two examiners.

Instead of a single viva, a more sensible approach for embodied artistic research might be to arrange a viva and 2 pre-viva sessions.

During the 1st pre-viva session the examiners could engage with the artistic work without knowing any contextual information about the research project. This would allow the examiners to make an initial purely embodied evaluation. The 2nd pre-viva session could take place after the examiners have received more contextual information on the research project through the multi-media research log and brief report for instance.

During the actual viva, the examiners can then discuss their impressions and evaluations of the two pre-viva sessions with the artist. In this model, the examiners could also request that the artist makes adjustments to certain aspects of the artistic work, if they feel this would make the work stronger.

It might seem controversial to ask an artist to make amendments to their art, but ‘Pass with minor corrections’ is the most common outcome of the viva in UK universities and PhD candidates are often requested to make adjustments they might personally disagree with. It could be argued that in the context of a doctoral programme it would not be unreasonable if the examiners can request amendments, rather than only having the choice to present the artist with a dichotomous outcome of pass or fail. The assessment of any amendments would require another viva exam however, and at least one of the examiners would have to be willing to commit to this.

## Conclusion

I began this essay by pointing out that from the beginning of academia, verbal language has been the favoured mode of knowledge acquisition and exchange.

The current European consensus criteria for doctoral research programmes are still aligned with this traditional model of academic research. Even doctoral research in the arts still has to be accompanied by a discursive component that critically reflects upon the project and documents the research process. As I have shown however, verbal thought is not the only complex thought modality in the human brain. Embodied artistic research can further our understanding of different ways of knowing by engaging with neural networks in multiple modalities and on different processing levels.

The Creator Doctus pilot by the Gerrit Rietveld Academie in Amsterdam, in partnership with an international consortium of institutions for higher education in the arts, is currently leading the way by developing a doctoral framework for embodied artistic research. Their insights will provide important guidance going forward as higher education institutions for the arts will have to adjust to new post-pandemic academic realities.

The profound restrictions to social interactions and physical movement that the global coronavirus crisis has triggered will likely push arts education programmes further online. However, we should also take this as an urgent call to re-examine our essential relationships with the material and embodied world we live in. This will be of great importance well beyond academia.

## About the author

Janneke van Leeuwen is a visual artist and neuropsychologist. This essay was written in the context of her doctoral research in visual art and social neuroscience at UCL Queen Square Institute of Neurology in London. The research was developed during an interdisciplinary residency at Wellcome Collection in London, and took place in collaboration with Gerrit Rietveld Academie in Amsterdam.

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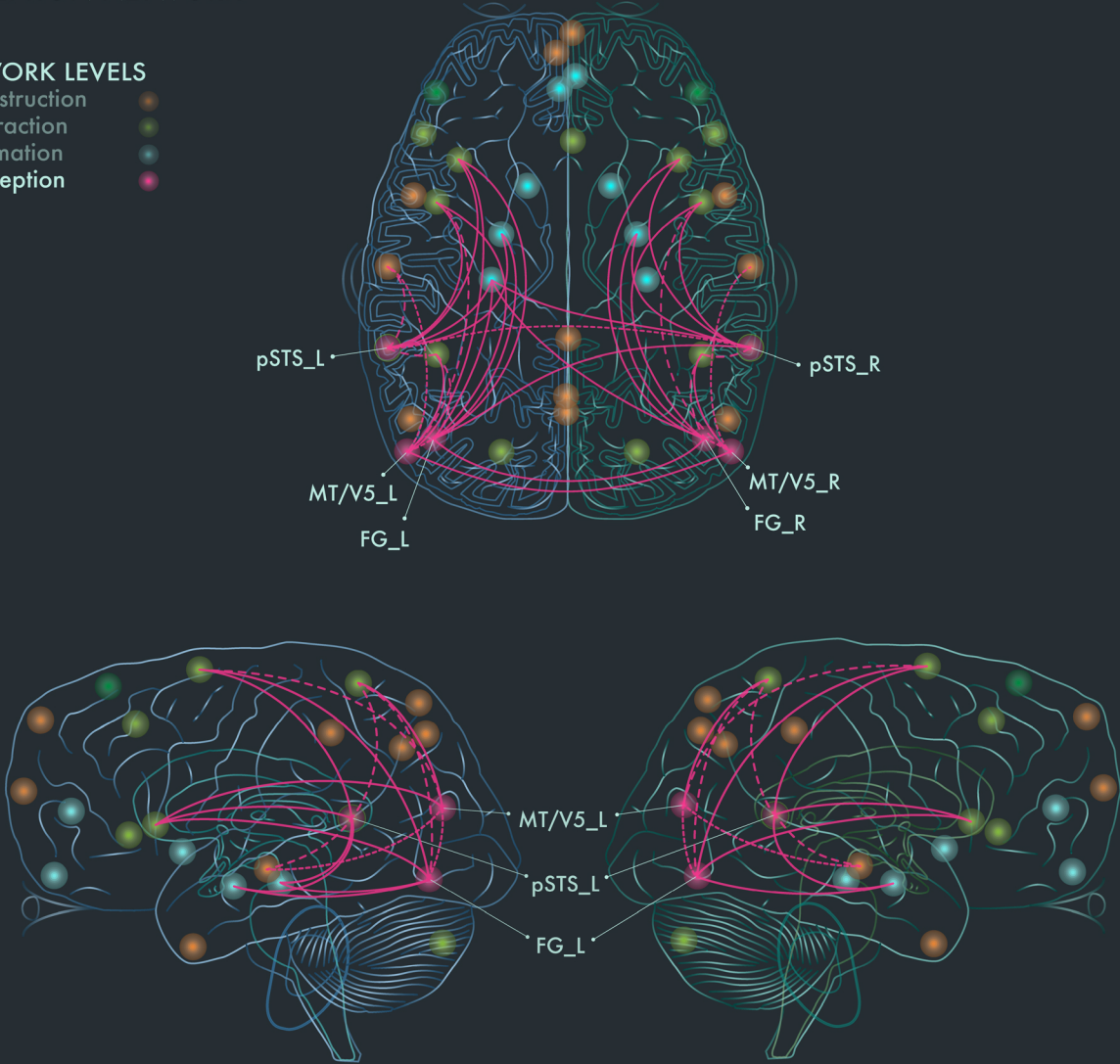
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SOCIAL BRAIN ATLAS

PERCEPTION NETWORK

- NETWORK LEVELS
- 4. Construction
  - 3. Interaction
  - 2. Animation
  - 1. Perception



FUNCTIONAL CONNECTIVITY

- State Independent ———
- Resting State - - - - -
- Task State - - - - -

SOCIAL BRAIN AREAS

- pSTS\_L Left superior temporal sulcus
- pSTS\_R Right superior temporal sulcus
- MT/V5\_L Left middle temporal V5 area
- MT/V5\_R Right middle temporal V5 area
- FG\_L Left fusiform gyrus
- FG\_R Right fusiform gyrus

FUNCTIONAL PROFILE

The Perception Network is the first processing level in the Social Brain Atlas. Its core areas are specialised in analysing sensory and spatial features of social behaviour, with an emphasis on visual processes.

It plays an important role in analysing the spatial qualities and the perceptual features of art. Lines and shapes are combined into meaningful forms and movements in space and integrated with other sensory information.

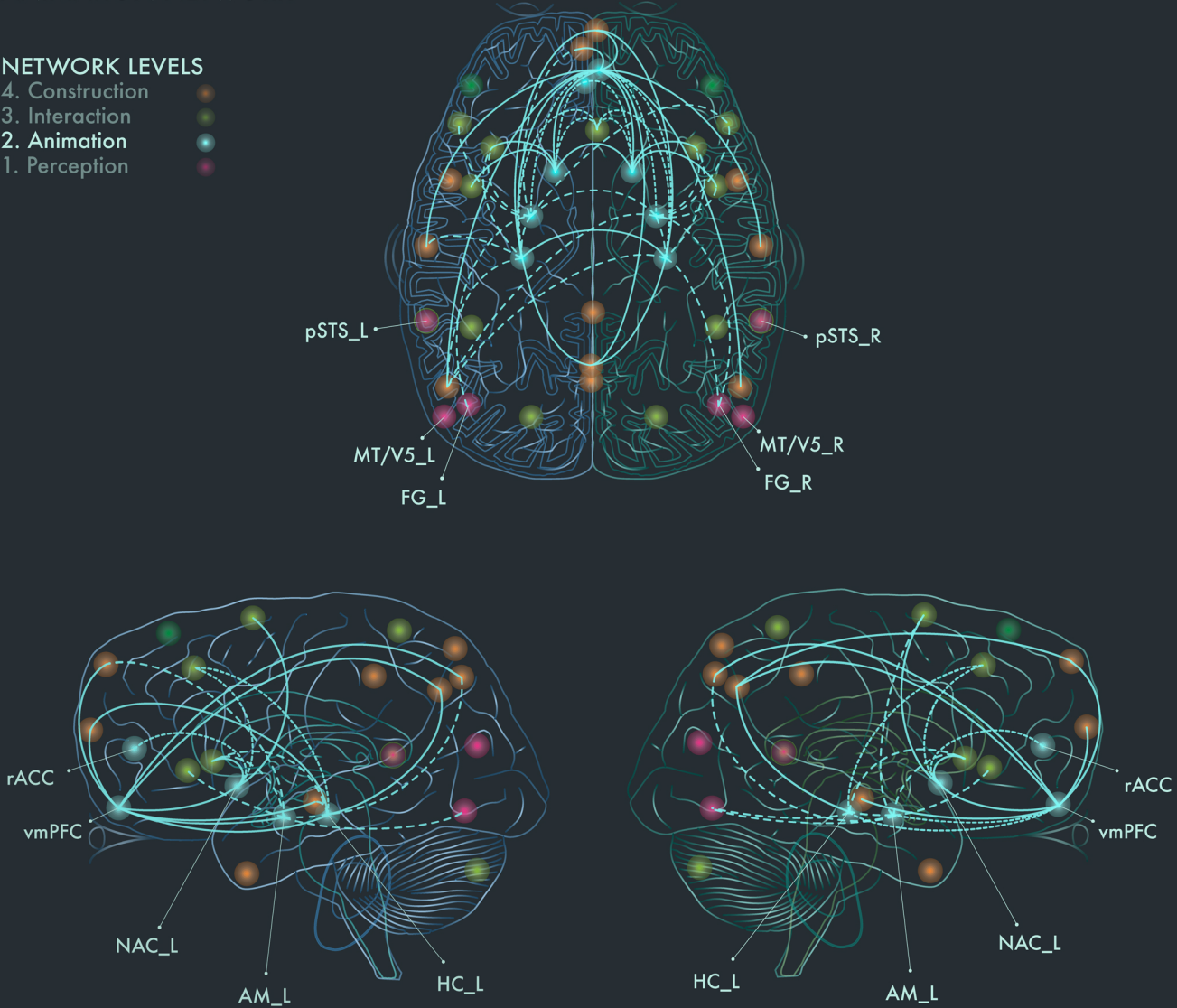
Figure 1

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SOCIAL BRAIN ATLAS

ANIMATION NETWORK

- NETWORK LEVELS
- 4. Construction
  - 3. Interaction
  - 2. Animation
  - 1. Perception



FUNCTIONAL CONNECTIVITY

- State Independent ———
- Resting State - - - - -
- Task State - - - - -

SOCIAL BRAIN AREAS

- rACC Rostral anterior cingulate cortex
- vmPFC Ventromedial prefrontal cortex
- NAC\_L Left nucleus accumbens
- NAC\_R Right nucleus accumbens
- AM\_L Left amygdala
- AM\_R Right amygdala
- HC\_L Left hippocampus
- HC\_R Right hippocampus

FUNCTIONAL PROFILE

The Animation Network is the second processing level in the Social Brain Atlas. It plays an important role in attributing personal and emotional value to our experiences as well as creating, retrieving and updating dynamic internal representations and multimodal memories.

This network is associated with people’s imaginative abilities and their affective responses to art.

Figure 2

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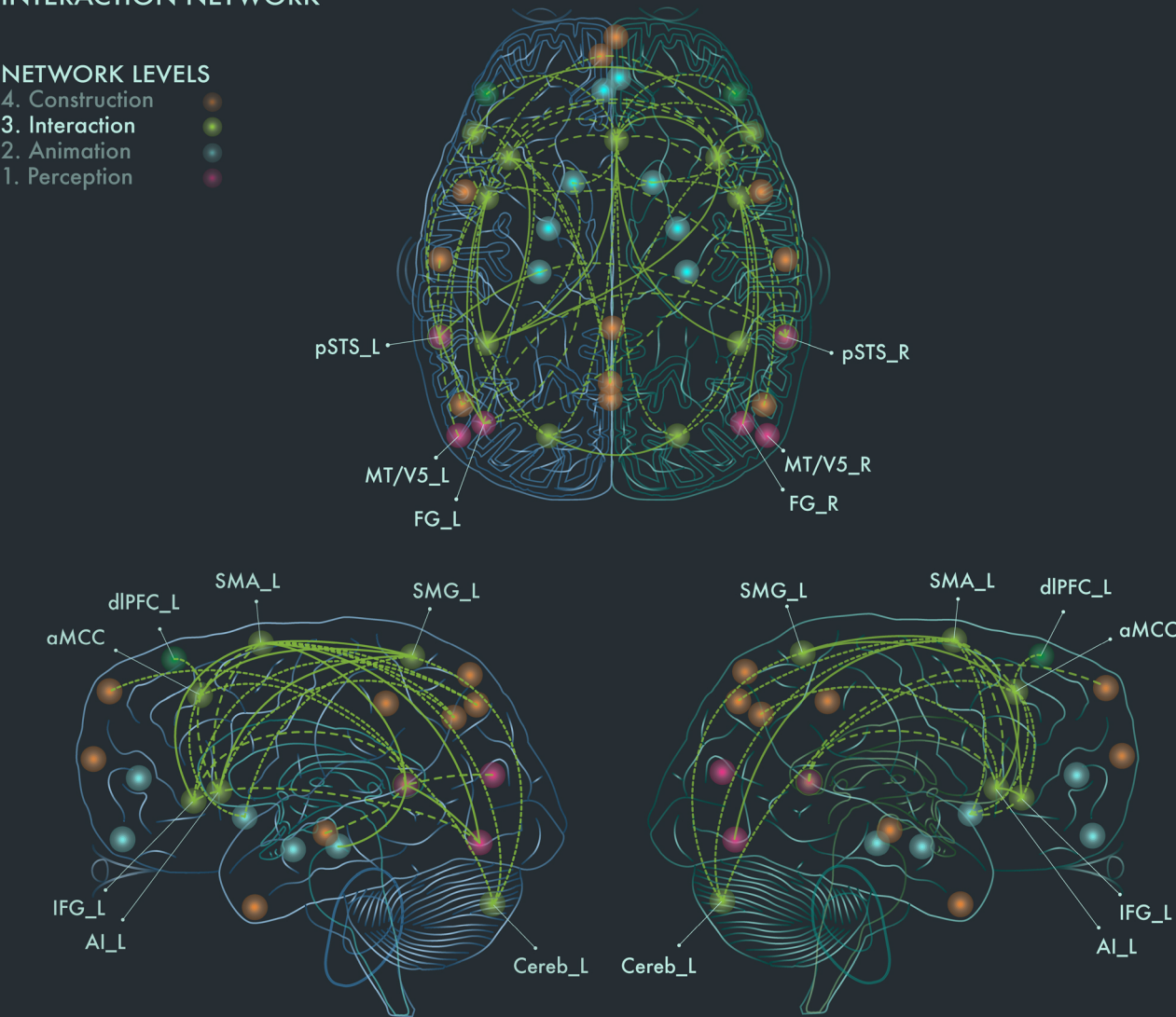


SOCIAL BRAIN ATLAS

INTERACTION NETWORK

NETWORK LEVELS

- 4. Construction
- 3. Interaction
- 2. Animation
- 1. Perception



FUNCTIONAL CONNECTIVITY

- State Independent
- Resting State
- Task State

SOCIAL BRAIN AREAS

- dIPFC\_L Dorsolateral prefrontal cortex
- aMCC Anterior mid-cingulate cortex
- IFG\_L Left inferior frontal gyrus
- IFG\_R Right inferior frontal gyrus
- AI\_L Left anterior insula
- AI\_R Right anterior insula
- SMA\_L Left supplementary motor area
- SMA\_R Right supplementary motor area
- SMG\_L Left supramarginal gyrus
- SMG\_R Right supramarginal gyrus
- Cereb\_L Left cerebellum
- Cereb\_R Right cerebellum

FUNCTIONAL PROFILE

The Interaction Network is the third processing level of the Social Brain Atlas. It contains core hubs of the so-called Salience Network, which weighs internal states against incoming sensory information to regulate social behaviour.

It also consists of brain areas which regulate speech production and a mirroring behaviour system (functionally aligned with mirror neurons discovered in primates) that is thought to underpin empathy and mentalising skills.

This network is considered to play an important role in mediating between incoming sensory information and the construction of meaning. It is involved in evaluating the subjective value of art and creative output.

Figure 3

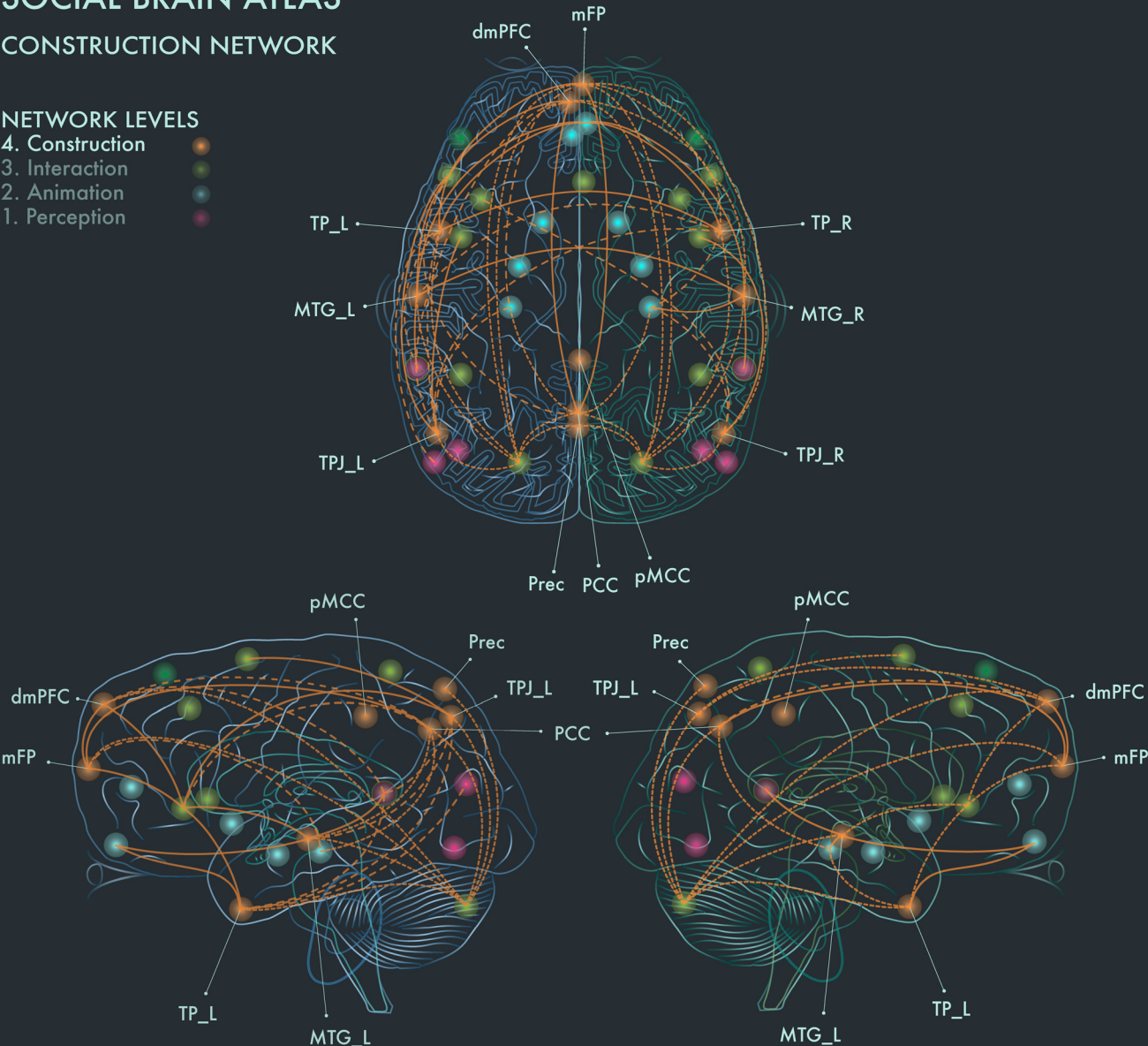
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SOCIAL BRAIN ATLAS

CONSTRUCTION NETWORK

NETWORK LEVELS

- 4. Construction
- 3. Interaction
- 2. Animation
- 1. Perception



FUNCTIONAL CONNECTIVITY

- State Independent
- Resting State
- Task State

SOCIAL BRAIN AREAS

- mFP Medial frontal pole
- dmPFC Dorsomedial prefrontal cortex
- TP\_L Left temporal pole
- TP\_R Right temporal pole
- MTG\_L Left middle temporal gyrus
- MTG\_R Right middle temporal gyrus
- TPJ\_L Left temporoparietal gyrus
- TPJ\_R Right temporoparietal gyrus
- pMCC Posterior mid-cingulate cortex
- PCC Posterior cingulate cortex
- Prec Precuneus

FUNCTIONAL PROFILE

The Construction Network is the fourth and highest processing level of the Social Brain Atlas. It corresponds anatomically with the so-called Default Mode Network and plays a crucial role in creating internal models of ourselves and others in relationship to the world around us.

This network also contains the semantic language system, which regulates our knowledge of the symbolic meaning of things.

The Construction Network integrates multimodal knowledge systems to give personal and symbolic meaning to the world around us. It plays a key role in the appreciation of art, as well as generating and critically evaluating creative thoughts and artistic expressions.

Figure 4

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