## 

## SHARON LYNN JOYCE

A dissertation

submitted to the Faculty of

the Department of Philosophy

in partial fulfillment

of the requirements for the degree of

Doctor of Philosophy

Boston College Morrissey College of Arts and Sciences Graduate School October 2020

© Copyright 2020 Sharon Lynn Joyce

### A PHENOMENOLOGICAL STUDY OF THE THREE DIMENSIONS —VERTICALITY, HORIZONTALITY, AND DEPTH— AND THEIR ROLE IN ORIENTATION

#### **Sharon Lynn Joyce**

#### Advisor: Dr. Richard Kearney, PhD

#### ABSTRACT

All our movements presuppose our being oriented. But what does it mean for the embodied subject to be oriented in space? How is the egocentric space of the lived body connected to the larger domain of objective space? While Husserl explored how the egocentric subject comes to situate itself within intersubjectively constituted objective space, Merleau-Ponty's further inquiry into pre-objective spatiality suggests that the embodied subject is always already oriented beyond itself, via its connections to the three dimensions of the physical world. His work on the subjective experience of depth and verticality laid the groundwork for a phenomenology of the three dimensions, which I undertake here.

For each of the three dimensions—verticality, horizontality and depth—I explore the interconnections among a) the sensed dimensions of bodily space b) the dimensions of intersubjective space and c) the geometric, abstract axes of objective space. Each of the dimensions in lived space is qualitatively distinct, both as sensed in the body and perceived externally, and they differ accordingly as bearers of meaning. My primary aim is to elucidate the specific character of the dimensions in all their expressive, existential, and cultural significance; this is done first at the level of subjective, bodily spatiality and then again at the broader cultural and historical level. To this end, I look to philosophy as well as to visual art, architecture, the history of religion and myth, psychology, cognitive linguistics and neuroscience.

Investigating the axes of the body in relation to the dimensions of the world means asking about orientation itself, for it lies at their nexus. I examine the role of spatial orientation in self-understanding, self-identity and memory as well as in shaping relations with the Other. Ultimately, the prevailing cultural (western) ideas of modern space and subjectivity, rooted in the *cogito*, prove to be in tension with a phenomenology of space and the three dimensions. The primacy of egocentricity deserves to be questioned in light of various alternate modes of spatial experience (attuned, shared) and alternate modes of orientation (allocentric, absolute). I conclude that orientation is better described as symbiotic and reciprocal, with the lived body always in relation to the world beyond itself.

### TABLE OF CONTENTS

TABLE OF CONTENTS	
LIST OF IMAGES	Viii
INTRODUCTION	1
0.1 Orientation as a Pre-Objective Relation between Body and World	1
0.2 The Qualitative Distinctiveness of the Dimensions	2
0.3 The Structure of the Chapters	5
0.3.1 Chapter 1 The Phenomenological Body in Space: Basic Themes	5
0.3.2 Chapter 2 Orientation	5
0.3.3 Chapter 3 Depth	6
0.3.4 Chapter 4 Egocentricity	8
0.3.5 Chapter 5 Verticality	9
0.3.6 Chapter 6 Horizontality	10
0.3.7 Concluding Remarks	11
CHAPTER ONE: MERLEAU-PONTY'S RETURN TO PRE-OBJECTIVE SPACE	
10 Part J: Husserl's Objective Space versus Merleau-Ponty's Return to Pre-objective Space	12
1 The Subject as Oriented in Space	12
1.2 The Relation of Objective and Subjective Space	14
1.3 The Intersubjective Constitution of Objective Space	15
1.3.1 The Space of Solipsism	16
1.3.2 The Space of Intersubjective Constitution	10
1.4 Merleau-Ponty's "Fleshing Out" of Husserl's Spatiality	19
1.4.1 Husserl's Shadow: the Limits of Phenomenology	20
1.4.2 The Body's Spatiality and Pre-objective Space	22
a) The Pre-thetic Sense of One's Position	22
b) Depth	23
c) Oriented and Perspectival	23
1.4.3 Anchoring in Pre-objective Space	24
1.4.4 Existential Orientation within Lived Space	26
1.5 Conclusion to Part I (Chapter One)	27
1.6 Part II: The Three Axes	28
1.6.1 The Axes of the Body in Husserl: Visual and Geometric Relations	29
1.7 The Axes of the Body in Merleau-Ponty: Casting one's Anchor in the World	32
1.7.1 Anchoring to Each of the Three Dimensions	34
1.7.2 The Body Schema	35
a) Unity of the Senses	36
b) Pre-reflective Awareness of Position	37
c) Purposeful Movement	37
d) Localization and "Sense"	37
1.7.3 The Body Schema in Place: Its Role in Anchoring	38
1.7.4 Being in Situation: the Body Schema and the Vestibular System	40

CHAPTER TWO: ORIENTATION AND THE AXES	43
2.1 Orientation: An Overview	43
2.1.1 Orientation, Affect, and Touch	44
2.1.2 Orientation as Self-Location	45
2.2 Orientation as a Function of Anatomy	47
2.2.1 Basic Modes of Oriented Movement: Positional and Translational	48
2.2.2 The Three Axes in Biological Orientation	48
a) The Vertical Axis of Balance	48
b) The Front/Back Axis of Motion and Depth	50
c) The Bilateral Axis of Symmetry	50
2.3 Human Orientation: Conceptual and Abstract	52
2.3.1 Lived Space and Objective Space as Commonly Understood	54
2.3.2 The Geometric Axes a Function of Spatial Cognition (Piaget)	55
a) The Topological Stage: Non-metric, Perceptual, and without Lines	57
b) Straight Line Projection and the Awareness of Perspective	59
c) Systematic Reference Frames of Euclidean and Projective Space	60
d) A "Natural Reference System"	61
2.3.3 The Axes as Bodily, as Geometric, and as "Natural"	62
2.4 Reference Frames as Ordering Space and Time, according to Lonergan	62
2.4.1 The Anthropological Reference Frames: Personal and Public	64
2.4.2 The Personal Reference Frame in Context	65
2.5 Situating One's Self	65
2.5.1 Self-Orientation, Disorientation, Re-Orientation in Proust	66
2.6 Reference Frames Beyond the Personal	68
2.6.1 The Extent of Orientation and its Limits	69
2.6.2 The Abstract Reference Frames: Mathematical and Physical	69
2.6.3 An "Ultimate" Frame of Reference	70
2.7 The Earth as Ark of All Humanity	71
2.8 Conclusion	72
CHAPTER THREE: DEPTH	75
3.1 Part I: Depth as a Philosophical Question	75
3.1.1 Depth in Modern Thought	76
3.1.2 Phenomenology's Critique of Modern Depth	78
a) Physiological Process versus Motivated Act	78
b) Depth and Unity	79
c) Merleau-Ponty's Redefinition of Depth	80
3.1.3 Phenomenological Depth: Aspects, Movement, and the Invisible	81
a) Distance From Myself as the Center	81
b) Things Given Together	82
c) Not Given Completely: the Invisible	83
3.1.4 The "Not-Given Completely," According To Husserl	84
3.1.5 Axial Versus Volumetric Depth in Action Space and Attuned Space	87
3.1.6 Conclusion To Part I (Chapter Three)	89
3.2. Part II: Depth in the World	91
3.2.1 Illusion Versus Reality	91
3.2.2 Depth and Landscape	93
3.2.3 Expanding the Self's Horizons	95
3.3 Conclusion: the Subject of Depth	97

CHAPTER FOUR: QUESTIONING EGOCENTRICITY	100
4.1 Overview	100
4.2 Egocentric, Allocentric, and Absolute Spatial Representation	101
4.3 Modes of Spatial Experience: Attuned Space and Action Space	103
4.4 Sartre and Merleau-Ponty: in the Park, in the Landscape	106
4.5 The Standpoint of the Modern Subject, according to Heidegger	111
4.6: Conclusion: Things Looking Back	112
<b>ΓΙΑΤΈΡ ΕΙΛΈ. VED</b> ΤΙ <b>ΓΑΙ Ι</b> ΤΥ	114
5.0 Overview	114
5.0 Overview	114
5.0.2 The Vertical From the Side of the Body (Subjective Verticality)	114
5.0.2 The Vertical From the Side of the World (Objective Verticality)	113
5.1.1 The Upright Desture	117
s.1.1 The Oppint Posture	119
a) One's Own Iwo Feel	119
0) Retations to the Ground, 1 hings, and Others	120
t 170m Ground to Sky	120
a) Intrigs which our reach and beyond	121
e) Face for Face with Others	122
s.1.2 Motion and Verticality	123
a) The Sense of Rising and Falling	125
b) V erittatil) as an Existential Orientation	125
d) Edving Falling Balancing	120
a) Assthatics of Weight	127
e) Austretus of weight	129
5.2 Part II: The Vertical in the World	131
5.2 Partial as Contar, Vortical as Bridge	134
5.2.2 The Axis Mundi and the Three Cosmic Realms	134
a) The Subtemana and Region	134
h) The Terrestrial Plane	133
c) The Heavens	137
5.2.3 The Vertical Axis in Sacred Space	130
5.2.4 The Vertical Axis of Secular Space	140
a) The Existential Axis Mundi	141
h) The Catherina: Heidenaer's Fourfold	142
5.2.5 The Vertical in Art and Architecture: A Phenomenological View	145
a) Rody House Cosmos: Microcosm and Macrocosm	145
h) Between Farth and Sky: Standing and Rising	140
c) Cosmic and Terrestrial Stace: the Circle and the Cross	140
5.2.6 Conclusion: the Human Figure as Axis Mundi	155
CHAPTER SIX: HORIZONTALITY	157
60 Overview: the Horizon, the Horizontal and Laterality	157
61 Part I: Laterality and Horizontality in the Body	159
6.1.1.1 aterality and Reference Frames	159
6.1.2 Laterality and Balance	100
6.1.3 The Basis of Right and Left	160
6.1.4 Handedness	161
6.1.5 A Distinction without a Difference	165
6.2 Laterality and Orientation: Kant's "Feeling" of Right and Left	164
6.2.1 Laterality and Alignment with External Space	164
o I interinty and ringhinent with External opace	105

6.2.2 Kant's Incongruent Counterparts: the Question of Lateral Difference	167
6.3 Conclusion to Part I (Chapter Six)	170
6.3.1 Laterality as Sensible and Abstract	170
6.3.2 Laterality and Depth	171
6.4 Part II: The Horizontal in the World: the Decentered Cosmos and the Rise of Modern Space	173
6.4.1 The Cosmological Revolution	174
6.4.2 The Emergence of Modern Space: From Void to Space	175
6.4.3 From Geocentrism to Anthropocentrism: a New Foothold	177
a) The Waning of Geocentric Teleology	178
b) Anthropocentrism	180
c) The Path not Taken: Harmonious Synthesis	181
6.5 The Horizontal as the Plane of Human Initiative	181
6.6 The Horizontal in the Visual and Spatial Arts: From the Center to Infinity	184
6.6.1 The Perspectival Rendering of Modern Space	186
a) The New Viewpoint: Arbitrary and Anthropocentric	186
b) Infinite Modern Space and the Vanishing Point	186
c) The Ground Plane and the Unification of Space	189
6.6.2 Symbolic Horizontality in the Space of Religious Painting	192
6.6.3 Baroque Architecture: Shifting Centers and Infinite Axes	195
a) The Baroque Church: Reconciliation of Vertical and Horizontal	196
b) Baroque Urban Form: Expansion and Interlinking of Centers	198
c) Piazza San Pietro: the Convergence of All Directions	198
d) Versailles: Priority to the Horizontal	199
6.7 Contemporary Horizontality: One Interconnected Framework	201
6.8 The Horizontal: Conclusion	201
7.0 CONCLUDING REMARKS	203
7.1 The Egocentric Subject and Beyond	205
7.2 From Egocentricity to Geocentricity	206
7.3 Verticality	207
7.4 Horizontality	208
7.5 Depth	209
SELECTED BIBLIOGRAPHY	211

## LIST OF IMAGES

## Image

Figure	1: Paul Klee's View of Kairouan (1914, Tunisia).	153
Figure	2: Paul Klee's Fire at the Full Moon (1933)	153
Figure	3: Paul Klee's The Angler (1921)	154
Figure	4: Paul Klee: Sailboats in Gentle Motion (1927)	154
Figure	5: Hereford Mappa Mundi (Hereford, ca. 1300)	183
Figure	6: Van Eyck's <i>Lucca Madonna</i> (1437)	187
Figure	7: Da Vinci's The Last Supper (Milan, 1495-98)	188
Figure	8: Van Eyck's Arnolfini Portrait (1434)	188
Figure	9: Raphael's School of Athens (1509-11	188
Figure	10: Fra Angelico's The Annunciation. (1440-45, Florence).	189
Figure	11: Master Bertram's Division of the Waters. (Hamburg, 1383)	190
Figure	12: Duccio di Buoninsegna's Last Supper (Florence, 1308)	191
Figure	13: Dieric Bouts: The Last Supper (Leuven, 1464).	191
Figure	14: Ambrogio Lorenzetti: Annunciation (Italy, 1344)	193
Figure	15: The Conversion of St. Hubert (1485-90)	193
Figure	16: Rogier van der Weyden's St Luke's Sketching the Virgin, (1435-40, Flanders).	194
Figure	17: Borromini's San Carlo Quattro Fontane (Rome, 1646).	197
Figure	18: G. da Vignola and G. della Porta, Il Gesu (Rome, 1580)	197

Note: All images included herein are in the public domain.

#### INTRODUCTION

Physiological space is experienced as three dimensional, both in our subjective experience of lived space and in the more general sense of physical, objective space. Our very means of experiencing space, the living body, is structured around three axes: sagittal, dorsal and coronal. These same axes also occur in the surrounding world as verticality, horizontality and depth, while the Cartesian abstraction of physical space consists of x, y and z axes.

Yet this commonality does not explain the interrelation; it is rather precisely where I propose to begin. The very interconnection of lived space to objective space is my starting point. How do the dimensions as felt sensibly within one's body relate to the verticality, horizontality, and depth of one's external surroundings, and to the abstract dimensions of objective space?

Every embodied being stands at what appears to be the center of its own spatial world. This observation was first made by Husserl, who noted that we occupy a "pre-eminent position" insofar as we "find ourselves to be the centers of reference for the rest of the world."<sup>1</sup> All spatial relations are experienced as oriented around my own body, that is, as egocentric. In contrast to objective space, as measured by a surveyor or mapped by a satellite, lived space is always oriented around me. Husserl concisely formulated this in what has become a kind of axiom in the phenomenology of space: "the body is the bearer of the zero point of orientation."<sup>2</sup> Yet even though we experience space egocentrically, we are not simply points. It is relative to one's own body that each of us gauges right and left, near and far, up and down. All these directional axes seem to figuratively converge upon me and radiate from my central bodily "here," so that each of us stands at the center of an immense circular horizon.

The three axial dimensions are required for any kind of orientation, which requires a spatial reference in the world outside of us. So the question about the relation of the bodily axes to the external geometry of the world is also a question about orientation: namely, how does the embodied subject connect to things outside, so that its egocentric orientation is not purely subjective? How do I pass beyond my own spatial perspective to situate myself within a larger, more intersubjective framework? I propose herein that the body is already oriented beyond itself, in pre-objective space, via its connections to the three dimensions.

#### 0.1 Orientation as a Pre-Objective Relation between Body and World

In his quest to show how the objective spatial order could arise from a community of solipsistic individual subjects, Husserl moved directly from the mode of egocentric lived space to the intersubjectively guaranteed mode of objective space, the presumed framework of the objective world. In his work on the body's spatiality, Husserl opened other

<sup>&</sup>lt;sup>1</sup> Husserl, *Thing and Space Lectures of 1907*, trans. R. Rojcewicz (Dordrecht: Kluwer Academic Publishers, 1999), 2. Hereafter cited as *TS*.

<sup>&</sup>lt;sup>2</sup> Husserl, Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy—Second Book: Studies in the Phenomenology

avenues of inquiry, which he did not fully trace to their end, and to which others would return. Merleau-Ponty in particular approaches this question —how the subject attains an understanding of space beyond his immediate egocentric framework—yet for him the answer does not directly pass to the mode of objective space. Rather, the body itself is always and already in dialogue with its surrounding world, always immersed in relations of anchoring and aligned with various spatial levels, and organized through the "body schema" that tracks its movements, position, and key relations to the outer world. All this goes on prior to any relation to the Other, in what Merleau-Ponty calls pre-objective space. Arising from the relation of the body to its surroundings, pre-objective space differs significantly from objective space. It is characterized by depth, in which the three axes are not fully distinct, it is oriented, and it is imbued with value, emotion, and movement.

#### 0.2 The Qualitative Distinctiveness of the Dimensions

In objective space, all of the dimensions are interchangeable and homogeneous. In subjective space, or lived space, on the other hand, each dimension is given to us with a certain specificity and character of its own. As Elisabeth Ströker stressed in her *Investigations into Philosophy of Space*, the three axes of space comprise "elemental pairs of opposites" that are "qualitatively distinct as bearers of expression and significance."<sup>3</sup> The unique character of each dimension is influenced by the body's axial organization (lateral, front/back, upright) as well as by the organization of the earth itself. Verticality is due to gravity, and we experience it as the dimension of weight and lightness, ascension vs falling, etc. Depth is the dimension linked to forward motion, to exploration and plunging within, to beckoning vistas and distant horizons. Right and left have their own peculiar symmetry and significance for holding a steady bearing. And it is due to these qualitative distinctions between the three axes – both in body and in its world – that we are able to move about, meaningfully, at all. For it is by sensing various distinctions between the three dimensions that any animate creature manages to orient itself to its world. Yet how do these axes structuring in the body's lived space and motion–up/down, forwards/backwards, left/right—ultimately converge and align with the dimensions and benchmarks of the world? To begin with, the three dimensions of the world, echoed in the axes of the body, are reconciled in the phenomenon of orientation.

Orientation, common to all animate creatures, consists in an ability to position oneself, and organize one's movements, with respect to some external references; that is, to establish one's spatial relations to concrete entities or qualities in the surrounding world. Since it involves an individual's measurable physical response to external elements, the act of spatial orientation easily lends itself to objective study. However, if we do not limit ourselves to the purely objective view, but rather, as Merleau-Ponty did with depth, seek to retrieve orientation from objectification, we can thereby uncover the unique pre-objective character of each dimension. For each dimension – verticality, horizontality, and depth, has its own specific character. This is true both phenomenologically, at the level of the lived body, and more

<sup>&</sup>lt;sup>3</sup> Elisabeth Ströker, *Investigations into a Philosophy of Space*, trans. A Mickunas (Athens: Ohio University Press, 1987), 34. Originally published as *Philosophische Untersuchungen zum Raum* (Frankfurt Am Main: Vitorio Klostermann, 1965).

broadly, at the level of cultural expression. The subsequent chapters therefore address not only the philosophical aspects of the particular dimension, but also presents various illustrations, from linguistics, visual arts, architecture and myth, of the meanings that have accrued to each dimension, not only from the side of individual embodied experience, but also in the intersubjective or cultural domain.

For instance, the vertical is conditioned by gravity, thus it involves the upright posture, balance and weight. The body aligns to the vertical, subjectively sensing it, yet there is also an evident verticality external to the body, in trees, buildings, mountains, other beings. The highest verticals serve as guides to navigation (towers, mountains, stars) and markers of key locations. The vertical is the only absolute dimension, remaining the same across any and all frames of reference.<sup>4</sup> The axis of depth pertains to forward motion and frontal perception and activity. It also lends itself to metaphors of time, since our trajectory of actual and possible actions stretches both before us and behind us. As for lateral symmetry, it helps us to more precisely locate the various entities all around, and consequently to strike a given bearing or hold a steady path. The corresponding dimension, the horizontal, is the plane of human action and dwelling, while the actual horizon circumscribes the limits of our visual perception and thus the very borders of the present, in both space and time.

We can and do supplement our sensory orientations with conceptual and technological means. We rely on conceptual frames of reference (egocentric, allocentric, absolute) and on symbolic representations such as maps. In this way, our sensory and bodily orientation is extended into realms far beyond that of the sensible and immediate, yet we still rely on our senses to keep our bearings. Somehow we merge the immediate and physical sense of orientation, which is personal and visceral, with a more distant, conceptual and representational sense of space that is shared and intersubjective. To further investigate the interplay between orientation as a bodily, sensed engagement with immediate space and orientation in a wider, more conceptual domain, I will examine orientation in the biological realm, then compare it to orientation in the human realm, which builds upon the latter using specifically human conceptual tools and representations of space.

At the limit, we can also abstract away from our senses altogether, and from our particular embodied situation, to finally conceive of space independently of ourselves. Such space, which Merleau-Ponty decried as "objective," is without any viewpoint; it is mathematical or geometric. It is the container of all things prior to any particular being. In this mode, we are no longer reliant on our particular viewpoint, instead can imagine ourselves at any point in this universal field. This universal space is what seems to precede or enable our particular setting. We can never access it directly (sensibly) but nonetheless we seem to depend on and presuppose it. It is the space of maps and geometry, the space measured by physics in its study of mass and velocity, the space measured by lines of latitude and longitude, or perhaps depicted in

<sup>&</sup>lt;sup>4</sup> That is, no matter whether the frame of reference is egocentric, allocentric, intrinsic, or absolute.

early perspective. Yet in this mode of conceiving space, we risk forgetting that we are always first embodied and situated, always first in a landscape—not in a measured infinite field that is an abstraction from lived space. Edward Casey, in his definitive studies on the phenomenology of space and place, noted how the prevailing paradigm of objective space obscures the body's role in constituting the spatial directions. The various "anesthetized conceptions of space consider just three dimensions—height, breadth, and depth—and think of these in turn as strictly orthogonal to each other; e.g., as three perpendicular axes that conjoin in an abstract zero-point… Yet such a model not only leave no room for place or region; it forecloses serious consideration of the lived aspects of the binary pairs being discussed here."<sup>5</sup> It is this lived aspect of the binary pairs that I seek to articulate here, while also placing them, necessarily, in relation to the wider spatial world. Accordingly, I devote a chapter to each of the dimensions—depth, verticality, and laterality—asking how each of these axes mediates across subjective directionality felt in the body and the objective dimensions outside of it.

To illuminate each of the particular dimensions across lived space, intersubjective space, and abstract geometrical space, I draw on a wide range of disciplines beyond philosophy and phenomenology: architecture and the visual arts, the history of religion and myth, psychology and neuroscience. Merleau-Ponty and Husserl are the starting points, particularly regarding orientation and objective versus pre-objective space. Other pivotal contributions come from Elisabeth Ströker's investigations into orientation and modes of space, Casey's comprehensive history of space and place, particularly his analyses of directionality, and Richard Kearney's carnal hermeneutics. For trenchant critiques of the modern subject's relation to spatial and nature, I rely not only on Merleau-Ponty but also Louis Dupré, Martin Heidegger, and art historian Erwin Panofsky. Concerning orientation, Bernard Lonergan and Jean Piaget are key to understanding how personal space relates to a larger order through reference frames. They also illuminate how we shift from perceptual space to abstract geometric space, and thus how the axes manifest at the various levels. Architectural historian Norberg Schultz makes the existential importance of orientation clear,(a theme further illustrated by Marcel Proust), and he also demonstrates the power of verticality and horizontality in wester architecture (primarily sacred structures).

To illustrate the particularity of each dimension, I draw on individual thinkers who addressed their significance, albeit often indirectly, as well as various cultural creations which embody them. For the vertical dimension, religious historian Mircea Eliade's axis mundi, with is crucial, as are his three cosmic realms. Several related themes such as uprightness, weight and balance, ascent and descent, and celestial versus terrestrial motion are clarified by phenomenologists Irwin Straus, George Simmel and Gaston Bachelard, as well as Rudolph Arnheim and Paul Klee from the arts. For the horizontal dimension, Kant is the core thinker, exploring the sense of laterality with regard to orientation, while the corresponding theme of modern "horizontalization" draws upon the work of Louis Dupré and

<sup>&</sup>lt;sup>5</sup> Casey, Ed. *Getting Back into Place, Second Edition: Toward a Renewed Understanding of the Place-World* (Bloomington: Indiana University Press, 2009), 49.

Karsten Harries, and also from Panofsky's opus on perspective and Didier Maleuvre's comprehensive interpretation of the horizon. Finally, for all three dimensions, I incorporate recent findings from neuroscience and cognitive linguistics, for instance, concerning the relation of the bodily sense of self to the sense of balance (vestibular system), various physiological responses to the dimensions, how norms of orientation appear in language, and finally, some cultural specifics of egocentric versus allocentric orientation.

#### 0.3 The Structure of the Chapters

#### 0.3.1 The Phenomenological Body in Space: Basic Themes

Chapter One focuses on certain themes emerging in Husserl and taken up by Merleau-Ponty with regard to the phenomenology of the body and spatial orientation. Husserl firmly establishes the living body as the unity of expression of body and consciousness, the subjective center of lived space, and the egocentric center of its surroundings. My ability to perceive myself as moving within objective space depends on empathetic awareness with similar animate beings, thus enabling me to grasp an external viewpoint on myself, so I can constitute myself as a bodily object in objective space. Thus the path out of pure egocentricity lies in intersubjectivity. On the other hand, Husserl takes us rather rapidly from this solipsistic thought experiment to intersubjectively constituted objective space, overlooking certain aspects of lived space relevant to orientation. Merleau-Ponty delves further into the exploration of the pre-objective space, that is, space prior to its constitution by the other. As such, he opens up the possibility of a different kind of relation to the three dimensions--one grounded in the body, its movements and sensations.

Merleau-Ponty's phenomenology of the body and bodily spatiality draws inspiration from Husserl's later writings while also going beyond them. He is aware of the limits to Husserl's reflective method and implies that Husserl himself was aware of these limits, as is evident in his essay *The Philosopher and His Shadow*.<sup>6</sup>

With this relation of Husserl and Merleau-Ponty with respect to space established, I will then to discuss the aspects of Merleau-Ponty's thinking that pertain to the three dimensions and orientation: namely, the notion of anchoring and levels, the idea of depth as the first, and most existential dimension, and finally, the body schema and its relation to anchoring and orientation.

#### 0.3.2 Orientation

Chapter Two deals with the sense of orientation in general. Orientation is a reciprocal relation having one pole in the body and one in the world, as Elisabeth Ströker observes.<sup>7</sup> That is, it is neither in things, nor in the body, but a relation perpetually established between them. The first part of this chapter explores the axial anatomical structure common to all animate beings and explores how each axis plays a particular role in orientation. The axes of the living

<sup>&</sup>lt;sup>6</sup> Maurice Merleau-Ponty, "The Philosopher and His Shadow," in *Signs*, trans. R. C. McCleary (Evanston, IL: Northwestern University Press, 1964), 159-181.

<sup>7</sup> Ströker, 42.

body both instantiate and respond to the basic spatial directions, perpetually keeping track of various subtle sensory stimuli that help flesh out the abstract directions used in orienting.

I will then turn to the specifically human aspects of orientation and axial relations to the environment. Human orientation relies not only on sensible but also on conceptual means, such as maps, projective geometry, frames of reference, and language. This combination of sensed and conceptual information enables us to orient ourselves further in time and space than merely physical means allow. Moreover, we have a different, more conceptual and geometric representation of space itself than do animals, evidently. We are therefore called upon to situate ourselves in a common world structured by publicly constituted references.

The nexus of the axes of the body and the axes of the world must not be taken for granted. The former axes are felt subjectively while the latter are instantiated physically as well as constituted geometrically. The felt axes structure the lived space of the body, while the world's axes configure the objective space of the world. How then, are they brought into relation? We will ultimately show that these are already given in the very fact of being embodied in the world.

The very fact that we conceive of space as structured by abstract axial dimensions calls for explanation. The three dimensions are not to be explained away as mere projection of the axes of the body, for our very representation of space as three dimensional and Euclidean presupposes an ability to represent it with abstract straight lines. Given the need to explain the abstract axial dimensions themselves -- the horizontal, vertical, and depth-I draw heavily in this chapter from Piaget's study of the child's evolving conception of space. Piaget showed that the transition from topological space to Euclidean and projective space occurs along with a growing awareness of one's own perspectival viewpoint, which itself precedes the ability to finally represent a unified and infinite framework of abstract, metric space. The latter underlies the public, intersubjective framework of the public, common realm; as a collective representations of objective time and space it provides a new context, beyond that of pre-objective space, to which we form spatial and temporal relations beyond the personal and egocentric. The chapter concludes with Bernard Lonergan's observations on how the personal frame of reference, grounded in sensibility, is linked to the broader and ultimately abstract totalities of space and time, which extends infinitely far beyond our own particular limited moment and location. Understanding how my own deictic situation lies within a larger public order helps me to know my place within the world that is the human realm. Orientation is thus a perpetual effort to bring various oppositions into relation: personal and public, the sensible and conceptual, the felt axes of the body and the external axes of the world. Whether these oppositions can be harmoniously reconciled without remainder is a question raised and addressed in later chapters (those which pertain to depth (Chapter Three) and egocentricity (Chapter Four).

#### 0.3.3 Depth

Chapter Three concerns the dimension of depth, associated with the forward/back axis of the body. For Merleau-

6

Ponty, depth is "more of a medium than an axis or line."<sup>8</sup> He saw it this primordial depth as prior to and irreducible to any of the tri-axial Cartesian dimensions. Depth is, then, a somewhat paradoxical dimension. It is both axial and all around. On the one hand it is associated with the front/back axis, which is the direction of vision and goal directed motion, and on the other hand, it is the sum of all three dimensions prior to their separation, as Merleau-Ponty describes it. Depth is the simultaneous presence of things situated near and far, to me in their midst.

Part I of this third chapter compares the account of depth given by modern philosophy with that given by phenomenology. Two modern philosophers, Berkeley and Descartes, were targeted by Merleau-Ponty for their objectifying approach to depth. In his view, they sought to grasp the biomechanics of visual depth and ignored how depth is experienced by the incarnated subject. Merleau-Ponty reminds us instead that the mobile incarnated consciousness has a very different experience of depth than the disembodied Cartesian eye. For him, depth calls us forth to explore the unseen (but apperceived) other sides of things, to occupy other positions, that highlights our particular position as both the "null point of orientation" and the center of lived space. Ultimately, Husserl's account of depth aligns with Merleau-Ponty's, particularly regarding their curiously shared description of a beckoning call coming from other viewpoints in a spatial field--a strange call that seems linked to the ineffable mystery and lure of depth as such.

The second part of this chapter addresses depth as experienced, in contrast to merely visual depth. We see in depth naturally, and are prone to find it in the visual realm, both in three dimensions and in two. Linear perspective is a form of two-dimensional representation that plays upon our depth perception; it simulates the subjective experience of depth. Yet a landscape cannot be contained in an image, and depth in the phenomenological sense is precisely what cannot be represented visually. Perspective depends on the "invisibility" of distance (in Berkeley's sense) but it fails to offer the other sort of "invisibility" apperceived according to phenomenological accounts. The tangible sense of being "here" and "now" in a given time and place is exactly what real depth offers and images cannot. Lived depth is exemplified, I suggest, by moving about within a landscape. Properly speaking, a landscape can never be grasped from above, but only from within.9 We must be fully within a place, rather than standing over and against it, looking on from the outside, to experience it as such. In contrast to the image, to properly take in a landscape means being reinstated in a conscious, motivated, mobile body. A landscape is thus the meeting point of subject and nature, for the embodied subject is the condition for the landscape to appear. The relationship is reciprocal, for not only does it involve an awareness of the landscape it also reflectively points to the self: i.e., one's powers of perception, one's particular location and situation, one's trajectory in space and time. Petrarch's excursion up Mt. Ventoux illustrates this theme, insofar as his newly gained outlook prompted his own (re)-orientation not only spatially but temporally and personally. This journey also illustrates, I suggest, that the different forms of depth (as axial and visual, versus a medium all around) as related to the mode of

<sup>8</sup> Merleau-Ponty, *Phenomenology of Perception*, trans. C. Smith (London/New York: Routledge Classics, 2006), 266. Hereafter cited as PhP.

<sup>&</sup>lt;sup>9</sup> See Michael Jacob, Le Paysage (Paris: Éditions Infolio, 2013), 29-31.

activity involved, whether it is purposeful, directional or more contemplative and expressive.

Finally, if the landscape is conducive to self-reflection, bringing a certain self-awareness into being, as the "I" who grasps the spatio-temporal whole, this effect is not because a given place, or type of place, influences how we experience and contemplate the surrounding world. It is rather, perhaps, because a certain model of the self as an individual subject brings the landscape as such into being. In other words, might depth itself, as a theme, bear some relation to the model of the subject that we hold? This chapter concludes by speculating on the cultural norms and philosophical assumptions that might inform our experience of spatial depth and, consequently, egocentricity.

#### 0.3.4 Egocentricity

Chapter Four explores egocentricity as a feature of modern subjectivity. Why did the idea of egocentricity emerge when it did, and with phenomenology in particular? What philosophical conditions or assumptions caused it to come to the fore? Possibly, egocentricity, or its diminishment, depends on circumstances, cultural habits, and intentional states. There is sufficient evidence for this to merit exploration. First, there exist non-egocentric modes of spatial organization and navigation in certain nonwestern societies, which employ absolute rather than egocentric (body relative) representations of space (that is, they use cardinal directions where we would employ left and right). In the same vein, even in our own culture, the degree to which we organize space egocentrically might well be related to the mode of representation we employ. Elisabeth Ströker describes different modes of lived space in which we are more or less oriented, more or less egocentric. In short, or egocentricity depends on our being in a space where our practical intentionality comes to the fore, in what she calls "the space of action." <sup>10</sup> Yet it recedes when we are in a more expressive and contemplative mode of experiencing space as "attuned."<sup>11</sup>

Further evidence is found in Merleau-Ponty's suggestion that we are all pre-personally grounded in a common world prior to individuation. This is in keeping with Piaget's observation that we all originally inhabit a "preperspectival" world, unaware of our own viewpoint.<sup>12</sup> In Merleau-Ponty's story of sharing a view of a landscape with a friend, he evokes a shared world in which neither person is the center, but find themselves in communication and in communion. He thus counters Sartre's suggestion that meeting the Other leads to the complete disintegration and decentralization of my spatial surroundings, merely due to the Other's gaze. These drastically different accounts of sharing space with the Other suggest that one's sense of egocentricity is linked to subjective assumptions and attitudes about self and Other and influenced by the varying and fluctuating nuances of personal and cultural experience.

The modern subject/object opposition, taken to its extreme by Sartre, is what Merleau-Ponty sought to challenge. An essential description of this subject, and its place in the western cultural tradition, is given by Heidegger. In his description of modernity, being as such is recast as representation, and thus becomes an object for mankind as subject.

<sup>&</sup>lt;sup>10</sup> Ströker, 48-70.

<sup>&</sup>lt;sup>11</sup> Ströker, 20, 27.

<sup>&</sup>lt;sup>12</sup> See "Other Selves and the Human World," PhP, esp. 413-414.

Being becomes a "picture" that is "constituted by himself" while he remains nonetheless within it.<sup>13</sup> To this objectification of the world, and this vision of the subject, Merleau-Ponty opposed the experience of depth. This version of depth which still places us in the picture, but no longer in the relation of as subject/object, but rather as intertwined with being- such that things now look back at us. I conclude by suggesting that despite our undeniable egocentricity, we are also capable, at least sometimes, of being allocentric, open to other influences; forgetful of the divide between ourselves at the center and the world around us, forgetful even of our place at the center, of the individuality that sets us up over and against the represented world.

#### 0.3.5 Verticality

Chapter Five addresses the dimension of verticality. The vertical is the axis most clearly composed of both a bodily aspect and an external, worldly one. The chapter is accordingly presented in two parts respectively addressing the vertical in the body and the vertical in the world. For the embodied subject, the vertical has to do with one's balance and upright posture, with sustaining oneself and striving against the downward pull. Keeping our balance and moving while upright is a skill that humans have to learn and maintain. As a force affecting the body at every moment, the feeling of the vertical dimension, as gravity, is inescapable—barring in dreams and in fantasy. It has thus taken on has a deep symbolic and psychological resonance in many cultures: the upward direction is linked to purity, divinity, moral uprightness, while the lower direction has the reverse connotations; it is there we find the subconscious, the buried, the underworld, the fallen. Motifs of ascension and falling recur in language, art, and myth and dreams, as I will variously illustrate.

The vertical is also independent of the body, however, being determined by physics and geometry. Indispensable at a practical level, it is necessary for anything to stand up properly and endure. It is also the axis of ascension and falling, of stability and collapse. The Aristotelian cosmos took the vertical to be the direction of natural motion, with more perfect entities rising higher and more base ones descending--a model that still resonates in our valuation of "higher things" in general. The Greeks made an ontological distinction between the terrestrial and celestial realms, a distinction which later evolved into the hierarchical universe of Christianity, with heaven above and hell below. The upper realm began to lose its ontological superiority in the late medieval age when the geocentric, hierarchical cosmos proved to be illusory. Yet from a phenomenological perspective, our experience of the vertical dimension remains as it ever was. It continues to bear the celestial bodies that establish time and direction, and the axis along which things rise and fall. Architectural theorist Christian Norberg Schultz considered verticality "the sacred dimension of space" since the vertical axis links earth and sky and establishes a center where all horizontal motion "comes to an end."<sup>14</sup> As and long as we remain terrestrial and earthbound, the vertical is a kind of phenomenological absolute: necessary for stability, structure, movement and orientation, i.e. for life itself. The chapter concludes with various cases from art and architecture,

<sup>&</sup>lt;sup>13</sup> See Heidegger's essay "The Age of the World Picture" in *Off the Beaten Track,* ed. and trans. by J. Young and K. Haynes, (Cambridge: Cambridge University Press, 2002).

<sup>&</sup>lt;sup>14</sup> Christian Norberg-Schultz, The Concept of Dwelling, (New York: Rizzoli, 1985), 22.

illustrating the domestic axis mundi (as described by Gaston Bachelard), the importance of rising and standing in architecture (as theorized by Rudolph Arnheim), and the enduring symbolism of earthly vs terrestrial motion (as illustrated by Paul Klee).

#### 0.3.1 Horizontality

Chapter Six deals with laterality and the horizontal. Initially, this relationship is the most puzzling. What do right and left have to do with horizontality, the dimension perpendicular to the vertical? Unlike the other two dimensions, there are fewer sensory stimuli or external bodily features to help distinguish the space of right from left, and this is the only dimension whose linguistic names must be learned. This bilateral symmetry is the clue to the importance of laterality. For what precisely is the difference between our right and left sides, and how do we link this internal sense to the outer world? It was Kant who first observed that it is via our sense of right and left that we find our bearings in the world at all.<sup>15</sup> And it is this "feeling" that ultimately informs his notion of sensible intuition, and consequently his view of space as the pure form of intuition. Following Kant, our knowledge of right and left proves to be a kind of nonconceptual, deictic understanding. It helps us to orient and find our bearings on the ground plane. It also makes that crucial link between our personal frame of reference and a public, universal convention.

Moving from laterality in the body to the horizontal plane of the world, I explore the idea that our contemporary era is one tending towards horizontality. It is no accident that our largest constructions are freeways, meant to take us beyond the horizon, whereas the monuments of the past were cathedrals that aspired to a transcendental domain. This question traces, I propose, all the way back to the Copernican Revolution. With the realization that geocentrism was an illusion of perspective, humankind realized they were not at the center of a hierarchical, vertical, fixed cosmos, but adrift in infinite, empty space. A new existential foundation was needed, and it was found by returning figuratively humanity to the center, albeit figuratively, and with a critical awareness of the position of the viewer. Exploration and mapping of the earth's surface brought a new emphasis to the terrestrial plane, the locus of human activity. Perspectival representations of space arose, centered on an ideal yet arbitrary viewpoint, and these works laid symbolic emphasis on the horizon and the ground plane over the vertical. The limited notion of place, as defined by Aristotle, was reconceived and dissolved into the infinite abstract space of Euclid and Newton, and ontological distinctions were flattened into one secular space. This new spatial picture of the world, which prioritized the horizontal over the vertical, is evident in late medieval art insofar as the horizon becomes the new locus of infinity, and closed spaces open up to show endless ground planes tantamount to systemized modern space. Historically, the vertical sacred axis was initially harmonized with the secular horizontal thrust, but ultimately yielded to it. This dynamic repeats, too, in Baroque architecture, where centralized earthly powers of church and state sought to dramatize the scope of their influence, extending their reach

<sup>&</sup>lt;sup>15</sup> See his 1768 essay "On the First Ground of Distinctions of Regions in Space" in Kant's *Inaugural Dissertation and Early Writings on Space*, trans by J. Handyside. (Chicago: London, The Open court Pub. Co., 1929); reprinted in Van Cleve, *The Philosophy of Right and Left* (Kluwer: Dordrecht, 1991), 27-33.

outwards via formal, dramatically framed axes stretching to the horizons and beyond.

In more contemporary times, the primary axis of our activity has gradually but inexorably become the terrestrial, horizontal plane, as all distances and places are made available through interconnection of the globe. Horizons that previously delimited particular times and places, limits of the here and now, are expanded via technological means and ultimately merged into one global space.

#### 0.3.7 Concluding Remarks

For each of the three dimensions, verticality, horizontality, and depth, I summarize the interconnections among a) the dimensions as sensed by the body in lived space, with its three anatomically distinct axes, b) the dimensions as intersubjectively experienced and c) the axes of abstract geometric space. The rich particularity of the dimensions has been largely obscured by the prevailing idea of space as objective, that is, as a homogenous, metric, incorporeal field, prior to body. This view of space, with its roots in the Western philosophical and scientific tradition, remains in tension with the phenomenology of space and the distinctness of the dimensions. This phenomenological examination of the latter reveals the myriad ways in which we are always already oriented to what is beyond ourselves, in perpetual relation to both the life world and the natural world. Finally, this study of the three dimensions of intersubjectively constituted space. The fact that we are always already oriented in this more original sense has implications, I conclude, not only for our paradigm of orientation, with its predominantly egocentric subject, but also for how we view our relation to the earth. Is the earth's surface a blank slate for human activity, or a fragile biotapestry in which we weave our own history along with the rest of the species on the ark?

Our body and our perception always summon us to take as the center of the world that environment with which they present us. But this environment is not necessarily that of our own life. I can 'be somewhere else' while staying here, and if I am kept far away from what I love, I feel out of touch with real life.

The maniac, on the other hand, is centered wherever he is...

Merleau-Ponty, Phenomenology of Perception<sup>1</sup>

# CHAPTER 1: MERLEAU-PONTY'S RETURN TO PRE-OBJECTIVE SPACE AND IMPLICATIONS FOR A PHENOMENOLOGY OF ORIENTATION

#### 1.0 Part I: Husserl's Objective Space versus Merleau-Ponty's Return to Pre-objective Space

The three dimensions of physical space are recapitulated in the three axes of the human body, since the space I inhabit projects above and below me, forward and backwards, and to my right and left. There is an ever-present interconnection between bodily space and the space of the world, that is, between subjective space and objective space. That these modes of space are linked means they are distinct, but also implies they are not separate. How do the subjectively felt axes of the three dimensions project beyond and connect us to the larger realm of the world?

Husserl and Merleau-Ponty were the formative thinkers in this area, with the latter taking inspiration from the former's later writings. It was Husserl who laid down the founding axiom, so to speak, of the phenomenology of space when he identified the body as the zero-point of orientation, the bearer of here and now.<sup>2</sup> The lived body's egocentricity presented various avenues for exploration. Since Husserl's philosophical project involved explaining the constitution of intersubjective reality from the originally solipsistic viewpoint, he himself focused on how the latter comes to constitute space as objective. In *Ideas II*, he described the progression from egocentric subjective space to inter-subjectively guaranteed objective space free from any particular perspective. Yet I suggest here that Husserl's focus on the constitution of objective space led him away from a full and complete exploration of subjectively experienced bodily space. A richer description of our original relation to space is given by Merleau-Ponty, whose investigations into the pre-objective spatiality of the body "fleshes out" certain issues raised by Husserl.

Merleau-Ponty conducted a thorough and insightful inquiry into the original, primary experience of being spatially situated in the world. Like Husserl, he too approaches the question of how we pass beyond our immediate egocentric framework. Yet for him, the question does not involve objective space. Rather, the body itself is always and already in dialogue with its surrounding world, immersed in relations of anchoring and aligned with various spatial levels, and organized through my pre-reflective of my body's movements and positioning with respect to the outer world. The bond between body and its surrounding spaces is prior to any relation to the other, occurring in a mode of space Merleau-Ponty calls pre-objective, which is to say, space as lived by the embodied subject, prior to any objectification or assumption of a third person viewpoint.

<sup>&</sup>lt;sup>1</sup> PhP, 333.

<sup>&</sup>lt;sup>2</sup> Ideas 2, §18.

In pre-objective space, the body is felt as a unified whole. Its positions and movements are felt immediately, not objectively perceived. We are always already in situation, our motions spontaneously and purposefully directed at our goals. Pre-objective space is intrinsically oriented; it is therefore imbued with movement, value, emotion, and purpose. Pre-objective spatiality is moreover strongly charged with affective and existential significance, on Merleau-Ponty's account. It is imbued with depth, which Merleau-Ponty calls the first and most existential of dimensions.

Finally, and most relevant to this study, Merleau-Ponty's work shows how we are already intrinsically disposed to surpass a purely egocentric orientation through the experience of being oriented to the three dimensions. His discussions of motion and anchoring suggests that the lived body might be grasped not merely egocentrically, in relation to the outside world, but rather as anchored in some or another external background (or spatial level).<sup>3</sup> In this way, pre-objective space is always already oriented, insofar as the body tends to constitute certain levels, or norms, for each of the three dimensions. In other words, we have latent, somatic relations to our surroundings which manifest themselves in a variety of ways, beginning with orientation and disorientation within a wider world. While these latent relations are normally below the threshold of our awareness, thus taken-for-granted or ignored, they come strongly to the fore in experiences of partial or total disorientation, as we shall explore below.

Yet we must take care, in this investigation, not to oversimplify the division between subjective and objective space. It is tempting to present them, and conceptualize them, as clear cut opposites opposed to one another—particularly as each of these thinkers in this chapter carefully describes one or the other in isolation from its counterpart. Let us avoid, then, depicting objective space as a more "real" mode of space, independent of human concerns, and lived space as a kind of humane alternate experience of space that is meaningful in itself. Rather, these two modes are interdependent, inseparable, and interwoven in the phenomenon of orientation, or rather, the state of a being oriented.

#### 1.1 The Subject as Oriented in Space

Being oriented, as I wish to explore it here, means having a mute sense and implicit knowledge of one's particular and incarnated position within space, time, and human society. Because it is a pre-verbal and non-conceptual state of affairs, being adequately oriented seems intertwined with our sense of reality and of our movement and situation within it. What does being oriented mean, and what elements are necessary for it to occur? Orientation is not limited to the immediate space of the body, with its intuitive sense of its own limbs and immediate implements (as we might infer from a limited reading of Merleau-Ponty's body schema). Nor do we have to go through objective space, and the intermediation of the other (as we might infer from a limited reading of *Ideas II*, which is far, however from Husserl's only word on the subject). Rather, we find orientation somewhere in the middle: by expanding the body schema to include spatial dimensions (verticality, horizontality, depth) and by acknowledging that spatial experience nearly always involves *both* the sensible and conceptual realms, such that subjective and objective space are always being compared, reconciled, and intertwined in our lived experience of the world. To expound upon this latter point, let me turn to the

<sup>&</sup>lt;sup>3</sup> Indeed, the difference between egocentric and allocentric orientation might amount to a kind of recursiveness itself: the latter being a relation felt from both sides (anchored both in the self/body as well as an external benchmark).

respective accounts of objective and pre-objective space in Husserl and Merleau-Ponty. We will see the emergence of a rich and significant pre-objective relation to the three spatial dimensions in the latter's account of pre-objective space.

#### 1.2 The Relation of Objective and Subjective Space

Subjective, or lived space, is perspectival and sensible: it is space sensibly apprehended, as it appears to an embodied subject with a particular location. Objective space is observer-independent; it is the pure extension that underlies the measurability of primary qualities and thus objectivity itself. Given these differences, we might ask whether lived space, a mere mode of appearance, is subordinate to autonomous, objective space. Conversely, is space as experienced necessarily the ground of objective space? I put forth these questions not to resolve them, but rather to show how easily one falls into thinking in terms of opposites, and to question that very opposition.

We should take care not to view objective space and lived, subjective space as contraries. Even for Merleau-Ponty, who advocated a return to pre-objective space, the distinction is far from clear: "Lived space is not the contrary of objective space, nor is the subject the contrary of the object; rather, the distinction between subject and object is 'blurred' in my body as well as in the thing."<sup>4</sup> Objective and subjective space are not mutually exclusive, nor is one logically subordinate to the other. We might say they are different ways of processing the same sensory information. For sensibly appearing space gives rise to objective space, and the latter is a kind of idealization of the former, as Husserl clarifies. Objective space is "a formal unity of identification in the midst of the changing qualities;" it cannot be given sensibly in itself, but "can appear only within subjective spaces that have sensuous qualities," he writes.<sup>5</sup> I arrive at objective space not by abstracting *from* sensible appearances, but by positing them *within* a non-sensible system of ordered locations: "Pure space arises out of my appearing spatial form endowed with sensuous qualities and posits it in manifolds of appearances which do not belong to in individual consciousness but to a societal consciousness as a total group of possible appearances...."<sup>6</sup> It seems we simultaneously grasp our individual spatial worlds along with an objective framework.

This simultaneity—and possible reconciliation—of the subjective and objective experience is why I have foregrounded the question of orientation, in studying the three dimensions. For orientation involves figuring out how my own subjective position and place relates to external spatiotemporal frameworks that are not of my own making, i.e. arrive at by intersubjective effort. I cannot orient to the world if I am always at the only absolute "here." Some external benchmarks or invariable elements are needed.<sup>7</sup> True, these outer benchmarks remain subjectively perceived—at least unless I also constitute them objectively via intersubjectivity, according to the early Husserl. On the other hand, there is nonetheless a strange blurring of subjective and objective when it comes to the body's relation to the three dimensions; particularly with regard to gravity and the earth plane, as I will argue below.

<sup>&</sup>lt;sup>4</sup> Merleau-Ponty, "The Philosopher and His Shadow," 167.

<sup>&</sup>lt;sup>5</sup> *Ideas 2*, 92.

<sup>6</sup> Ideas 2, 92-93.

<sup>&</sup>lt;sup>7</sup> Something that turns my *egocentricity* into a kind of *allocentricity*.

Jeff Malpas addresses this complex interplay between subjective and objective modes of spatial experience, rightly warning against subjectivizing orientation. He writes, "the space that is opened up through one's being able to connect regions and directions in that space with one's own bodily orientation is not subjective, but *objective*—as it must be if action and perception are to be effective in our engagement with *things.*<sup>8</sup> Ed Casey also questions the subject/object dichotomy with regard to spatiality, noting the primacy of body in the formation of directionality and dimensions, but denying that this leads to a subjectification of space; rather:

To say that "spatializing" space precedes "spatialized" space, as does Merleau-Ponty, or that "spatiality" precedes space, as does Heidegger, or that bodily kinaesthesias precede the idealization of space in the manner of Husserl, is to claim that the directionality inherent in the lived body in place precedes the dimensionality of inert matter in space. To maintain such precedence is not to revert to a rampant subjectivism. The lived body that is the (re)source of directionality and dimensionality alike is neither subjective or objective. It is the 'common, but unknown to us root' of all that comes to be classified and rigidly stratified ways in modern Western thought."<sup>9</sup>

Casey, then, concludes that the body somehow transcends this distinction. How then, can we adequately describe the interplay of subjective and objective space in the experience of being embodied, situated, and being oriented? For now, let me propose that the body's spatiality is both retained but also subsumed within intersubjective space. That said, it is productive to return to both Husserl's account of the transition from subjective, egocentric space to objective space, for it poses the initial problems with great clarity. I will then turn to Merleau-Ponty's exploration of orientation in preobjective space, to see how the subject might, in the absence of others, i.e. through the body alone, establish some orientation to the dimensions of the world that are neither purely subjective (not egocentric and outside the causal nexus) nor purely objective, but a convergence, a *rapprochement*, of the two.

#### 1.3 The Intersubjective Constitution of Objective Space

If we only encounter space subjectively—as lived, first-person space--how do we ever arrive at objective space? This question is part of a broader one posed by Husserl: namely, how did the objective world, characteristic of the scientific worldview, arise out of a lifeworld composed of subjective experience alone? How do we get from a world of appearances perpetually shifting in space and time to a world of stable entities governed by mechanical forces, physics, causality?

For Husserl, an "objective" quality is one that remains unchanged in an object irrespective of variations in perceptive experience (i.e., the objective color of a thing is that which remains the same regardless of changes in the light or the perceptive apparatus.). While a thing appears to various individuals in the guise of subjective sensory perceptions, the latter are grasped as mere "appearances" of the "objectively real" thing, that is, the thing which "maintains its identity within the manifolds of appearances belonging to a multiplicity of subjects..."<sup>10</sup> Objective space is the space in

<sup>&</sup>lt;sup>8</sup> Malpas, Jeffrey. Heidegger and the Thinking of Place: Explorations in the Topology of Being (Cambridge, MIT Press, 2017), 119. <sup>9</sup> Casey. Getting Back Into Place 50

 <sup>&</sup>lt;sup>9</sup> Casey, *Getting Back Into Place*, 50.
<sup>10</sup> *Ideas 2*, 86-87. The objective thing is also the "intuited Object" for a community of normal subjects, as well as the "physicalistic thing", adds Husserl (87).

which the unchanging self-identical thing underlying manifold appearances, is presumed to exist.<sup>11</sup> For Husserl, objective entities are all apprehended within the "one objective time and space of the one objective world."<sup>12</sup> Thus all appearances are situated within a "system of location" that is grasped conceptually, not sensibly; it is "intuited at a higher level."<sup>13</sup>

The human body lies at the core of the problem of the constitution of objective space, since it is the means of perception and necessary for the very sense of spatiality and direction. It is central to "the construction of the spatial world," Husserl observes, "by virtue of its "constitutive role of the sensations" as well as "a center of orientation."<sup>14</sup> But how does lived space get apprehended as objective? For this, the body itself must be grasped as an object, so that its own viewpoint is seen as relative to any other position in the objective field. But a further question is then implied: how does the experience of what Husserl calls *animate being*, initially an "expressive unity" at the center of its own spatial world, ultimately grasp its own body as an objective thing like any other?

What exactly is the subjective and original experience of lived space, for Husserl? And how does this solipsistic space ultimately give rise to the constitution of objective space, which seems to need nothing from it? A grasp of this question is needed, before addressing the interrelation of subjective and objective space. Let me recapitulate, then, the main points of Husserl's well-known theory, in order to better compare how his mode of transcending solipsistic, egocentric space-- through objectivity—ultimately compares to Merleau-Ponty's very different way of transcending egocentric space, through a prior and fundamental orientedness to the world itself. <sup>15</sup>

#### 1.3.1 The Space of Solipsism

One's own body is not originally experienced objectively, but as an expressive unity, a "subjective object" that is endowed with sense, freely moveable, and the center of space, for Husserl. My body is the "bearer of the here and now," and "the zero point of orientation" as well as the medium for all perception.<sup>16</sup> All surroundings are relative to my own absolute "here." In other words, the lived body does not seem to change place in space when one moves; rather I have the impression of remaining central while the scenes around me change. Ultimately, the ability to take an objective viewpoint on oneself arises with the appearance of others, such that I can imagine being seen from their perspectives just as I see them from mine. With my own viewpoint decentralized and grasped as relative, I can now regard myself as changing positions in objective space when I move about.

As a solipsist I can never grasp myself "as a spatial thing like all others,"<sup>17</sup> lacking any outer perspective upon my own body; for me, my body is not a thing or even an animal being, but is a "freely movable totality of sense organs"

<sup>&</sup>lt;sup>11</sup> Husserl writes, "The Objectively real is not in my "space" or in anyone else's as a "phenomenon" ("phenomenal space") but exists in *Objective space*, which is a formal *unity* of identification in the midst of the changing qualities" (*Ideas 2, 89*). <sup>12</sup> *Ideas 2, 86*.

<sup>13</sup> Ideas 2, 88.

<sup>&</sup>lt;sup>14</sup> Ideas 2, 62.

<sup>&</sup>lt;sup>15</sup> Ed Casey repeatedly acknowledged Merleau-Ponty's work pointed towards the body's pre-objective orientation to the world. For instance, he writes "if the lived body is an origin, it is one split against itself and seeking its own foundations elsewhere. For this body often takes its crucial clues from the world outside as well as from the heart within" (*Getting Back Into Place*, 81).

<sup>&</sup>lt;sup>16</sup> Ideas 2, 61.

<sup>&</sup>lt;sup>17</sup> Ideas 2, 169.

under my control.<sup>18</sup> In this mode, I do not yet I take appearances as such, for I cannot distinguish between things as they appear to me, and things as they might appear to others—for I am not yet aware of a position other than my own subjective viewpoint.<sup>19</sup> My original experience with my own body is as an expressive unity, not yet distinguished into material body and immaterial psyche. My body is constituted, via the recursivity of my own touch, as a sensitive organ, as the bearer of localized sense data, which is both from within (kinesthetic) and from without (representational). (Importantly, localized sensations are not a material property of the body, which is not yet constituted as a material thing). All other sensations are based on this "previous constitution of the body by Touch."<sup>20</sup> At this stage, importantly, the body is still a phantom; that is, it is not yet implicated in the causal nexus of the spatio-temporal objective world, even though there is a relationship between internally arising and externally arising sensations. "Kinesthetic sensations are also in a motivational relationship with representational ones, certain features of external objects follow for my spatial position, that is subjectively experienced through a specific kinesthetic sensation."<sup>21</sup>

As a solipsist, with a phantom body, my experience of space is egocentric. Because I cannot get a perspective on my body from outside, "I cannot objectify my body as a non-subjective external object"; it thus appears to me as an absolute here.<sup>22</sup> I remain the center around which the spatial world is arranged. I seem to remain at the center of space, always in an absolute "here," while scenes around me move and change. If I walk towards some other thing or place, the new place becomes a new center of oriented space. "Movement is not so much an objective change of place, as subjectively experienced tension in the muscles."<sup>23</sup> In short, my body is originally given an absolute here at the "center of subjectively oriented space," and given to me incompletely (not via perspective), not yet situated in objective space.<sup>24</sup> In the absence of another, I would not come to see myself in the naturalistic mode, as a duality of body and body-dependent mind, for this naturalistic attitude comes only with the constitution of the objective world via intersubjectivity.

#### 1.3.2 The Space of Intersubjective Constitution

With the arrival of the other on the scene, and my empathy with them as fellow animate beings, comes the possibility of empathetically grasping my own body as seen from outside, my "here" as the other's "there." My body becomes an intersubjectively constituted thing, given that "an objective spatio-temporal thing is the correlate of the

<sup>&</sup>lt;sup>18</sup> Ideas 2, 61.

<sup>&</sup>lt;sup>19</sup> This is something of a simplification: Husserl actually considers that a solipsist might come to constitute objectivity on his/her own, in various instances. In *Ideas 2*, he notes that under certain conditions there might be sufficient "motives" for making "the necessary distinction between the subjectively conditioned thing and the Objective thing;" namely, if certain senses temporarily suffer distortion while other senses continue to function properly with regard to the same situation, thus raising the possibility of distinction between "appearance" and "reality" (83, 89).

<sup>&</sup>lt;sup>20</sup> For only the sense of touch entails a doubled, recursive sensitivity, or "double sensation", *(doppelauffassung*) such that tactile sensations are immediately felt as localized in the body (kinaesthesia included). When I touch an external thing, I have two sensations: the texture of the sensed thing and the feeling in my sensing hand; when I touch my own body there is a triple constitution, according to Peter Reynaert; namely, the sensing felt within each of the hands (or other body part) involved in reciprocal touch *as well as* the external traits of the more passive hand (or part). See his essay "Husserl's Phenomenology of Animate Being and the Critique of Naturalism" in *Phänomenologische Forschungen*, Vol 5, No. 2 (Hamburg: Felix Meiner Verlag, 2000), 262.

<sup>&</sup>lt;sup>21</sup> Reynaert, 261.

<sup>&</sup>lt;sup>22</sup> Reynaert, 263.

<sup>&</sup>lt;sup>23</sup> Reynaert, 263.

<sup>&</sup>lt;sup>24</sup> Reynaert, 264.

synthesis of different perspectives.<sup>25</sup> In my original lived experience, I am never divided into body and soul, never a material object in space; it becomes so only for others perceive it from their positions--whose perception I empathically intuit. "Because of their presence, my body appears from different perspectives and it thus decentralized.<sup>26</sup> I can thus only represent my body as a spatiotemporal thing insofar as I reckon with the perception that others have of me. My subjective here becomes an objective place, and arbitrary position in an objective framework, in which "here" and "there" are interchangeable. Thus arises an abstract, objective conception of the self and its spatiality that is not original to me. Ultimately I shift to a naturalistic attitude whereby I can perceive a) a common spatio-temporal framework and b) the body as situated within that framework as a material entity.<sup>27</sup>

In contrast to subjective space, Husserl's objective space is not accessible via the body or its senses. It is intellectual, understood as an unchanging "system of locations" grasped via the understanding that every "here" I might occupy is simultaneously grasped as "there" from some other viewpoint; and that all of the possible locations are systematically unified and interconnected. The subject's initial situating of other objects with respect to his egocentric center (in terms of above/below, right/left, etc.) is superseded by a framework in which he can, at least intellectually, disassociate from his particular egocentric frame of reference, with its relative directions, and transpose it onto other points or persons. This transposition occurs via the other –but also, Husserl hints, via one's own movement:

"Every subject has his "space orientation," his "here" and his possible "there", this "there" being determined according to the directional system of right-left, above-below, front-back. But the basic form of all identification of the intersubjective givenness of a sensuous content is of such a kind that they necessarily belong to one and the same system of location, whose objectivity is manifest in that every "here" is identifiable with every relative "there" as regards every new "here" resulting from the subject's "moving on"..." also as regards every "here" from the viewpoint of another subject. This is an ideal necessity and constitutes an Objective system of location, one that does not allow of being grasped by the vision of the eyes but only by the understanding; that is, it is 'visible' in a higher kind of intuition founded on change of location and on empathy."<sup>28</sup>

Every particular here is grasped as interchangeable with every other point in an idealized and homogeneous framework. Each movement and location is now situated within a single continuous space. The remaining step towards a thoroughly physicalist picture of the world is to deny to treat as secondary and subjective those aspects of reality that cannot be ordered to objective space.<sup>29</sup>

In explaining the constitution of an objective spatial order through the solipsist's empathy with similar embodied others, Husserl moved directly from the mode of egocentric lived space to the intersubjectively guaranteed mode of objective space, and idealization arising from lived space. One's personal, egocentric reference frame is transposed elsewhere; my own position is grasped as relative to, and exchangeable with, any other, and my body too becomes constituted as an objective thing in space. A rigorous questioning of Husserl's reasoning and presuppositions is beyond

<sup>&</sup>lt;sup>25</sup> Reynaert, 264.

<sup>&</sup>lt;sup>26</sup> Reynaert, 264.

<sup>&</sup>lt;sup>27</sup> Reynaert, 265.

<sup>&</sup>lt;sup>28</sup> Ideas 2, 88.

<sup>&</sup>lt;sup>29</sup> Ricoeur, "Ideas II: Analyses and Problems," in *Husserl: An Analysis of his Phenomenology*, trans. E. Ballard and L. Embree (Evanston: Northwestern University Press, 1967), 51.

our present scope.<sup>30</sup> What I wish to focus on instead is the way that objective space, as he so well characterized it, exists for us in tandem with our ever-present and ongoing sense of pre-objective space. For our original experience of space remains always with us, even while we also inhabit an intersubjectively constituted objective world. What else can be said about this lived space prior to objectification, and the bodily ties, or lack thereof, to objective space? In other words, How do the three directions of bodily space, which are private, sensible and visceral, merge or interrelate to the external directions of objectified space?

#### 1.4 Merleau-Ponty's "Fleshing Out" of Husserl's Spatiality

If Husserl's intersubjectively constituted objective space is the means by which the egocentric subject transcends his or her solipsistic experience of space, Merleau-Ponty, by contrast, gives a different explanation. That is, the incarnated subject's links to the world are not forged by transcending a subjectively experienced reality via the other (or any other form of deduction). Rather, the incarnated subject in pre-objective space is always already prone to a kind of allocentric, immediate orientation to the world, through what Merleau-Ponty calls a "gearing" or "anchoring" to one's surroundings. As we shall see, this immediate, pre-objective orientation is inseparable from the body schema, with its characteristic pre-thetic, or pre-positional sense of one's own body in space. Moreover, Merleau-Ponty provides a different account of the body's unity, via the body schema, as opposed to Husserl's seeing the body as the bearer of sensations constituted by tactility.

Anchoring is particularly relevant to the question of the three dimensions and the way the body's axes are felt to align with some external dimension. In various works, including *Phenomenology of Perception, Le monde sensible et le monde de l'expression,* and *Eye and Mind*, he returns to the theme of a spatial "level" that serves as a reference point against which motion, rest, and directionality can be perceived.<sup>31</sup> That is, the body anchors to a given direction, point, or location that is the index for the unmoving whole of space, the background against which all change in position occurs. Neither purely subjective nor objective, the levels to which the body aligns or gears itself are those which are the direction best suited to its activity, for instance, by anchoring to a vertical to enable balance, to a stable background so as to be able to judge the perception of moving objects. We thus anchor to places and points as well as to abstract directions, such as horizontal, vertical and depth. In all cases, the selection is influenced by "the way we establish our relations with them," that is by our own active perception and engagement.<sup>32</sup>

My sense of orientation and direction, in short, has more to do with pre-objective spatial tendencies that are simply part and parcel of being flesh incarnate in the world. Capable of being embedded in relationships of anchoring, by which I align the subjectively felt axes of my body to sensed directions of the external world, I am more deeply bound to the

19

<sup>&</sup>lt;sup>30</sup> Ricoeur questions Husserl's prioritizing of the geometric over qualitative and notes that objectivity is made "contemporaneous" with intersubjectivity in a turn that is "taken rather brusquely" See "Ideas II: Analyses and Problems," 50.

<sup>&</sup>lt;sup>31</sup> See Le monde sensible et le monde de l'expression: Cours au Collège de France. Notes, 1953, eds. E de Saint Aubert and S. Kristensen (Geneva: Mêtis Presses, 2011), hereafter cited MSME. See also "Eye and Mind," trans C. Dallery, *The Primacy of Perception and Other Essays on Phenomenological Psychology, the Philosophy of Art, History, and Politics*, eds. J. M. Edie and W. Cobb, (Evanston, IL: Northwestern University Press, 1964, hereafter *EM*. <sup>32</sup> PhP, 324.

world. This ability to anchor oneself, suggests that personal orientation can reach beyond mere egocentricity without shifting to the mode of objective space.

There is another crucial difference in Merleau-Ponty's approach to spatiality of the body. For him, the primary directions of verticality, horizontality, and depth not only play an important practical role, linked to optimal functioning, they also harbor affective, existential values and moods which though normally subdued do occasionally rise to the surface. In dreams, for instance, I am caught up in the risings and fallings of an "existential tide" that permeates physical space,<sup>33</sup> and these latent meanings are not entirely forgotten during waking. I will propose that the particular value of the different dimensions reemerges in imagination and metaphor, visual and spatial art, religion and ritual. Such indelible spatial values are signs that pre-objective orientations to our given particular situation underlie and permeate our experience of objective space.

Before going further into these aspects of Merleau-Ponty's thought, it is worth asking how and why his thought diverged from Husserl's works which so inspired him. Merleau-Ponty himself claimed that the Husserl was moving away from a clear distinction between subjective and objective and towards a closer imbrication between the lived body and the world.<sup>34</sup> He saw himself as developing these implications latent in Husserl's thought. Yet Merleau-Ponty uncovered new aspects to the relation of body and world by addressing its situatedness in the world "as a dimension in relation to which I am constantly situating myself."<sup>35</sup> He will thus explore that which remained "unthought" in Husserl, precisely where the latter came up against the limits of reflection. For Merleau-Ponty, our perception of space and directionality involves the very "core of the subject" and comprises a "communication more ancient than thought" that is "impenetrable to reflection."<sup>36</sup> For him, the spatiality of the body is a particularly apt starting point to inquire into the original intertwining, the total recursivity, of body and world.

#### 1.4.1 Husserl's Shadow: the Limits of Phenomenology

Merleau-Ponty aimed to retrieve pre-objective space from objectification so as to better describe the subjectively lived experience of space. In returning to pre-objective experience, he is not so much opposing Husserl as he is elaborating on certain implications within the latter's writings.<sup>37</sup> From *Ideas 2* and onwards, Merleau-Ponty detects what he sees as the limits of purely reflective thought which seeks to account for the constitution of the objective world by the subject.

The limits of the reflective method are already implicit, suggests Merleau-Ponty, in late Husserl. He notes the latter's

<sup>33</sup> PhP, 332.

<sup>&</sup>lt;sup>34</sup> Merleau-Ponty, "The Philosopher and His Shadow," 162.

<sup>&</sup>lt;sup>35</sup> PhP, xiv.

<sup>&</sup>lt;sup>36</sup> PhP, 296. The passage in question specifically deals with orientation to the dimensions, i.e., anchoring to levels "Space and perception generally represent, at the core of the subject, the fact of his birth, the perpetual contribution of his bodily being, a communication with the world more ancient than thought. That is why they saturate consciousness and are impenetrable to reflection. The instability of levels produces not only the intellectual experience of disorder, but the vital experience of giddiness and nausea, which is the awareness of our contingency, and the horror with which it fills us" (296).

<sup>&</sup>lt;sup>37</sup> The degree to which Merleau-Ponty remained true to Husserl's phenomenological method is a matter of debate; his approach being more descriptive and less focused on eidetic variation.

lack of surprise at the various "circularities" latent his own thinking, circularities that point to areas of existence that fall beyond the reach of constitution. For instance, the dependence of the objective thing on other persons, but the experience of others as bodies which are in effect things.<sup>38</sup> Then there is the circularity between nature and persons, for nature as the whole of the world encompasses persons, yet persons "encompass nature as an object they constitute in common."<sup>39</sup> These circularities, or reciprocities, show constitution at its own limits, and point to the interdependence and simultaneity of "nature, body, and soul."<sup>40</sup> Constitution begins to show its own inadequacies, or blind spots: if it was "originally a project to gain intellectual possession of the world", it nevertheless becomes "the means of unveiling a back side of things that we have not yet constituted."<sup>41</sup> Reflection points to the very impossibility of a clean cut between subject and object, between intentional consciousness and intended things; rather, it serves to "unveil a third dimension in which this distinction becomes problematic," he suggests.<sup>42</sup> In this third dimension, the world (as a totality of things interconnected by causal relationships) cannot successfully be distinguished from consciousness, for it is continually "rediscovered 'in me' as the permanent horizon of all my cogitations and as a dimension in relation to which I am constantly situating myself."<sup>43</sup> The subject cannot, it seems, be isolated from what Merleau-Ponty often calls the "intentional threads" that bind him or her to the world, without distorting the subject beyond recognition.

Phenomenology must therefore, Merleau-Ponty concludes, go beyond the distinction between constituting consciousness and the constituted world. It must get at a more fundamental layer, he implies, since consciousness depends "on an unreflective life which is its initial situation."<sup>44</sup> The key to bridging the gap between subject and object, constituting ego and constituted objectivities, is perception, for perception precedes reflection. That is, it initially belongs to a different state of consciousness (prior to self-awareness) and thus betokens a more fundamental link between subject and world.<sup>45</sup>

Perception is neither a judgement or representation or mental act; it is rather "the background from which all acts stand out."<sup>46</sup> The limits of reflection force us to recognize the primacy of perception and thus the role of the body in structuring our perception. The most important lesson of the phenomenological reduction, Merleau-Ponty concludes, is the impossibility of its completion: it is impossible because we are more than just our minds.<sup>47</sup> Prior to being a reflecting, conceptualizing mind, we are bodies. And this other-than-mind, the embodied side of our being, cannot but influence

<sup>47</sup> PhP, xv.

<sup>&</sup>lt;sup>38</sup> Of this circularity in Husserl, Merleau-Ponty writes "For the fully objective thing is based upon the experience of others and the latter upon the experience of the body, which in a way is a thing itself" ("The Philosopher and His Shadow," 176).

<sup>&</sup>lt;sup>39</sup> "The Philosopher and His Shadow," 176.

<sup>&</sup>lt;sup>40</sup> "The Philosopher and His Shadow," 176.

<sup>&</sup>lt;sup>41</sup> "The Philosopher and His Shadow," 180.

<sup>&</sup>lt;sup>42</sup> "The Philosopher and His Shadow," 162.

<sup>&</sup>lt;sup>43</sup> PhP, xiv.

<sup>&</sup>lt;sup>44</sup> PhP, xvi.

<sup>&</sup>lt;sup>45</sup> Reflection on one's consciousness is already different from the unreflective experience reflected upon, as Merleau-Ponty reminds us (PhP, xi). It entails a self-awareness lacking from unreflective acts and is thus a different mode of consciousness.

<sup>&</sup>lt;sup>46</sup> PhP, xi. For F. Bender, this primacy of perception deprives reflection of its self-certainty (see "Merleau-Ponty and Method: a Critique of Husserlian Phenomenology and Reflective Philosophy in General," *British Journal of Phenomenology*, Vol. 14 No. 2),176.

that original material that only comes to reflection by way of perception. So when Merleau-Ponty undertakes his study of the spatiality of the body, he is aiming to elucidate that experience that is prior not only to the objectification of space but also prior to reflective thought. It will come as no surprise, then, that his account of bodily spatiality significantly diverges from that of Husserl.

#### 1.4.2 The Body's Spatiality and Pre-objective Space

Merleau-Ponty sought to recover our original, lived experience from the objectifying tendency to overlook the subject at the heart of all perception.<sup>48</sup> Regarding the space of the body, he was led to explore the "pre-objective" experience of space that underlies and precedes objectification of both space and the body. In this mode, the body is not an object in space but rather "that by which there are objects;" it is the very condition for the appearance of things and of space.<sup>49</sup> It is characterized by a pre-thetic sense of my bodily position and by the primacy of depth; it is moreover perspectival and oriented.

#### a) The Pre-Thetic Sense of One's Position

In Phenomenology of Perception, Merleau-Ponty describes the space of one's body as distinct from the space of the world: "The outline of my body is a frontier which ordinary spatial relations do not cross."<sup>50</sup> The parts of one's body are not grasped in the same way as objects around it; for instance my arm resting on the desk is not next to my manuscript in the way that the pencil is next to it; my arm is felt in relation to my other arm and to a comprehensive sense of my whole body.<sup>51</sup> Nor are the parts of my body sensed as a "juxtaposition" in space of parts, limbs, or organs; rather "I hold my body as an indivisible possession", says Merleau-Ponty, since "I know the position of each of each of my limbs through a body schema," which is a pre-reflective sense of my body's configuration and movements. It is a "global awareness of my posture in the intersensory world."52 My body and its disposition in space is sensed from within, located "not where they are 'objectively' but where we are inclined to place them."53 If we need to reach a mosquito bite on our body, or a tool we are accustomed to finding nearby, we simply find the place without any hesitation; as the body "surges toward objects to be grasped and perceives them."54 Our way of inhabiting space is pre-thetic, below our threshold of consciousness awareness, prior to reflection or representation, for as Merleau-Ponty says, "movement is not thought about movement, and bodily space is not space thought of or represented."55 To perceive our bodies otherwise implies some neurological disorder, such as the patient unable to situate his limbs in space or with respect to each other, and needing to refer to objective space, by looking in a mirror; relating to his own body as an object to manipulate from without.

Yet this pre-objective grasp of my own body's position via the body schema does not mean my body is exempt

- <sup>51</sup> *PhP*, p. 112.
- <sup>52</sup> *PhP*, p. 102.
- <sup>53</sup> MSME, 139.

<sup>&</sup>lt;sup>48</sup> PhP, 240.

<sup>&</sup>lt;sup>49</sup> PhP, p. 94.

<sup>&</sup>lt;sup>50</sup> *PhP*, p. 112.

<sup>&</sup>lt;sup>54</sup> *PhP*, 121.

<sup>&</sup>lt;sup>55</sup> PhP, 159.

from external relations like "next to" or "to the left of"; rather, it is the precondition for such relations, as we shall see. For the body is the original frame of reference, from which all other locations and motions, including objective ones, are ultimately measured and grasped. For Merleau-Ponty, the body is not "in space and time" but "belongs" to them; it "combines with them and includes them."<sup>56</sup> Movement and perception are intertwined, for Merleau-Ponty, with the embodied subject linked to the world by an "intentional arc," that is, by what Dermot Moran describes as an "overarching framework that connects the subject to the world and unifies its life, holding everything together in a coherent, meaningful way."<sup>57</sup>

#### b) Depth

Depth taken in its "primordial" sense is the hallmark of to pre-objective space, for Merleau-Ponty. It is not the "third dimension," as commonly held, but the first and most existential one, for is the sum of all dimensions prior to any abstraction into three separate ones, and prior to objectification into the equivalent of breadth. Depth is the "thickness of a medium devoid of any thing."<sup>58</sup> Primordial depth involves seeing from my own particular, non-transferable viewpoint, which encompasses all things around me simultaneously and in relation to myself. Depth is "the experience of the reversibility of dimensions, of a global 'locality' in which everything is in the same place at the same time, a locality from which height, width, and depth are abstracted, a voluminosity we express in a word when we say that a thing is there."<sup>59</sup> Depth is the hallmark of pre-objective space since it can only be grasped by an embodied subject localized in a particular place: by being among things can I perceive their nearness and farness to me; I am in an ever-changing relation to them. Things around me, near and far, are held together in depth by my own perception. I am all the more aware of my place "here" insofar as I see it in relation to other possible "theres" which I might move towards, vicariously or in reality. As Ed Casey eloquently notes, "To be in primal depth is not to be at a simple location. To be

diffusely located is to be in primal depth."60

c) Oriented and Perspectival

Pre-objective space is always oriented and perspectival. To begin with, the world is spread out around me as the center and surrounded by a horizon, and it is from this pre-objective experience of space that I grasp the meaning of

<sup>56</sup> PhP, 162.

<sup>&</sup>lt;sup>57</sup> Dermot Moran, "Intentionality: Lived Experience, Bodily Comportment, and the Horizon of the World," *Oxford Handbook of the History of Phenomenology*, ed. D. Zahavi (Oxford: OUP, 2018), p. 15-16. The intentionality latent in the body and its relation to the world also pertains, though there is no time to delve into them here, the concepts of "operative intentionality" and "motor intentionality." The former is linked to the sense of "I can" as opposed to "I think" and it captures how our movements have a purposeful intelligence of their own, even while they remain passive, anonymous, and preconscious (Moran, 15). Motor intentionality has to do with achieving an optimal physical hold on the object one needs to engage with; it characterizes "the functioning, active body in its capacity for self-movements (kinaestheseses), continues Moran (ibid.). Yet rarely do we find motor or operative intentionality discussed in connection with the body's orientation. I submit that this is because orientation has to do with a relation prior to any actual contact, unlike motor and operative intentionality, which have to do with a literal 'hold' on the object. Orientation, by contrast, is prior to and necessary for this operative intentionality to work at all. They are thus closely related, but not the same. <sup>58</sup> PhP, 310.

<sup>&</sup>lt;sup>59</sup> EM, 180.

<sup>&</sup>lt;sup>60</sup> Casey, Getting Back Into Place, 70.

relationships like under, beside, on, etc. Merleau-Ponty observes that spatial prepositions take their meaning from the body's being "face to face with the world" such that simple words like above, below, against already imply "the distinction of a top and a bottom, or an 'oriented space.' "<sup>61</sup> True, these directions can be described objectively, that is, from a different frame of reference, but even so they trace that meaning back to the condition of embodiment. Objective space, which is homogeneous (identical in all directions) can be described with terms like right and left only because these terms can be traced back to the body (a point that will be explored thoroughly in the question of laterality: right and left.) In Merleau-Ponty's own words, "Homogeneous space can convey the meaning of oriented space only because it is from the latter than it has received that meaning."<sup>62</sup>

#### 1.4.3 Anchoring in Pre-objective Space

With a clearer idea of the nature of pre-objective space, and how it is distinguished from objective space, let me now turn to what Merleau-Ponty refers to as a phenomenon of anchoring, which is pertinent to the bodily axes. Through anchoring, the lived body is prone to orient itself to some external reference. These references, or benchmarks, help delineate the perception of the spatial dimensions as well as external motion and rest. For instance, anchoring to a vertical or horizontal is shown in experiments demonstrating the body's shifting adaptation to levels according to altered visual input.<sup>63</sup> Despite major changes to the direction of the visual field (via inversion glasses) a person eventually adjusts and re-establishes the basic sense of horizontality or verticality for a given place. Re-establishing this set of spatial levels in a changed setting is like transposing a melody to another key: it is unconscious, and preserves the shape of an activity based on a new starting point.<sup>64</sup>

All our movements presuppose our being oriented. We are only able to move and act in a space that has the grain of directionality within it, notes Merleau-Ponty. "My body is geared onto the world when my perception presents me with a spectacle as varied and as clearly articulated as possible, and when my motor intentions, as they unfold, receive the responses they expect from the world."<sup>65</sup>

Anchoring is equally important in the perception of motion. All motions can be perceived as relative: if I am on a ferry departing a port, at times it seems the boat is moving while the port is stable, while at other times it seems that the port recedes while the boat stays put. How is this static background established, since there is no absolute level of space, i.e. no absolute frame of rest against which motion could be measured? Merleau-Ponty holds that "what makes part of the field count as an object in motion, and another as the background, is the way in which we establish our relations with them by the act of looking."<sup>66</sup> Every perception of motion presupposes that we have, via our gaze, firmly anchored ourselves in some other, motionless field, some "fixed points underlying motion."<sup>67</sup> This ability to anchor oneself becomes clear if we experiment with it in certain situations that allow us to choose our anchor point, notes Merleau-

- <sup>63</sup> PhP, 287.
- <sup>64</sup> PhP, 288.
- 65 PhP, 292.
- 66 PhP, 324.
- <sup>67</sup> PhP, 326.

<sup>&</sup>lt;sup>61</sup> PhP, 116.

<sup>62</sup> PhP, 117.

Ponty.<sup>68</sup> If I am in a train, I perceive my car to be static as long as I am sitting inside, while the landscape speeds by. Yet the moment I put my head out the window, I have anchored myself in the external world; the landscape becomes more static as I focus on it, and I can look back on the train (where I "am") as an element hurtling through the landscape. I thus shift my anchor from inside to outside.<sup>69</sup>

While it is possible to tinker with the points of anchorage in certain cases, like a moving train, still the fundamental state of being anchored is not under my control. That is, the available points of anchorage do not involve "explicit perception" nor are they objects; rather, they must be "already there," discovered not through direct perception but through a "preconscious process, the results of which strike us as ready-made."<sup>70</sup> In short, my lived body, or incarnate consciousness, relies on external points of anchorage, themselves neither posited nor pre-extant objects, but relations constituted between my body and the world in the very course of my being situated within it.

What does this mean for my ability to orient in the world, and find my way about? If I am moving myself, walking and exploring a new landscape, I can relate my body to some other thing, some stable benchmark. By doing so, I am not merely a "zero point" of orientation, but one pole of a relation to some outside point, that is, not merely egocentric but allocentric, that is, I situate myself with respect to some other, more stable feature of the world. One might say that my tendency to understand movement by anchoring to some other external object allows me to be in a space which is not as universal as Husserl's objective space, but is no longer merely egocentric space. My grasp of motion, and my grasp of my own motion, depend on my orientation to an external benchmark.

On this account, my sense of spatial positioning even seems to be recursive, or reflexive, like the sense of touch; through it I grasp where the object is relative to me and where I am relative to the object. Indeed, one might ask whether orientation has something in common with sense of touch, or at least the kind of touch that Merleau-Ponty found united with vision, and indispensable for the appearance of depth. For as Merleau-Ponty pointed out, "the relation of my eye to the object is not given to me in the form of the geometric projection of the object in the eye, but as it were a hold taken by my eye upon the object."<sup>71</sup> In this way, my sense of depth unites my vision to my sense of space and distance, so my position relative to the object takes on a haptic dimension. Vision so adeptly manages to gauge a present the relation of distance that one might well consider the gaze as a kind of tactile hold.

This idea of vision as a kind of grasp on the world recalls a similar discussion in Diderot's "Letter on the Blind," where the blind man, having concluded that "sight is a kind of touch extending to distant objects" said he would actually prefer, instead of being suddenly endowed with sight, to be given very long arms.<sup>72</sup> In other words, both stereoscopic

<sup>68</sup> PhP, 326.

<sup>&</sup>lt;sup>69</sup> An idea similar to anchoring is also present in Husserl; namely his reference to a 'basis body' that moves in tandem with our own so as to seem motionless, for instance a train or car, but also on a larger scale the whole planet, introduced in section 1.6 below.

<sup>&</sup>lt;sup>70</sup> PhP, 251.

<sup>&</sup>lt;sup>71</sup> PhP, 325.

<sup>&</sup>lt;sup>72</sup> Of his encounter with a man born blind, Diderot infers that a blind person knows the world only by hearing and touch and thus can only conceive of sight as "a kind of touch…which extends to distant objects". When he asked the man whether he would like to gain his sight, the latter declared he would "just as soon have long arms". See "Letter on the Blind for the Use of those Who Can See," in *Diderot's Early Philosophical Works*, trans. M. Jourdain, (Chicago: Open

vision and an impossibly long arm would serve to situate the object in space relative to myself; to give me a sense of surroundings without displacing me from my anchor that *is simultaneously planted in my body and rooted in the ground*. Both the eye and the impossibly long arm serve to create, clarify, and extend the depth around me, that is, that is medium in which things have relation to me.

This sense of being spatial is fundamental and existential, so even when we are unanchored to the material world, disoriented, there remains a persistent tendency to seek orientation. Upon waking, especially if my routine is altered, one's first thought is, what time is it, and where am I? We are always tracking our position and place in the world on multiple levels (in time, place, person), but we only become aware of this tracking when it is disturbed, during sleep, or amnesia or simple unfamiliarity with one's surroundings. Persisting through subjective space and objective, sleep and waking, it persists and even becomes a main theme of our dreams, disturbances, myth and art.

On the other hand, it seems that I can lose this anchor, or this mute primordial awareness of my surroundings- for instance, at night, or in case of mental illness. That is, I can be suspended in pure space itself, with the world contributing nothing for my gaze to encounter and back from. Merleau-Ponty talks of the space of nighttime as having "no outlines," as "pure depth without any distances separating it from me" and as "spatiality without things."<sup>73</sup> For this tendency to gear ourselves to the world's directionality, there is no ultimate explanation. The sense of directionality is primal and original, it cannot be explained but is given with our very incarnated existence. "We must not wonder why being is oriented, why existence is spatial, why... our body is not geared to the world in all its positions and why its coexistence with the world magnetizes experience and induces a direction in it," he writes.<sup>74</sup> It would be impossible to conceive of existence otherwise, for "we cannot disassociate being from oriented being; our relation to space constitutes a "communication with the world ancient than thought."<sup>75</sup> The body's spatiality and its sense of orientation in the subject is due to "perpetual contribution of his bodily being" which, as we have seen, lies beyond the reach of reflective thought, but is nonetheless a form of communication, a reciprocity between body and world, that lies at the core of our original being.<sup>76</sup>

#### 1.4.4 Existential Orientation within Lived Space

Lived space, or pre-objective space, is, *inter alia*, characterized by a fundamental relations of orientation and anchoring, and these have a persistent hold on us, one that is personal and existential, not just physical, and hardly just directed towards "optimal" functioning. For Merleau-Ponty's description of lived space makes clear that it is always charged with affect and existential significance. Moreover, these meanings are not merely personal and subjective but rather "open on to a horizon of possible objectifications."<sup>77</sup> That is, in certain contexts and states, the existential and

Court, 1916) p. 77.

<sup>&</sup>lt;sup>73</sup> PhP, 330.

<sup>&</sup>lt;sup>74</sup> PhP, 293.

<sup>&</sup>lt;sup>75</sup> PhP, 295.

<sup>&</sup>lt;sup>76</sup> PhP, 296.

<sup>&</sup>lt;sup>77</sup> "But mythical consciousness does indeed open on to a horizon of possible objectifications...if it did not "tentatively suggest objectification, it would not crystallize itself in myths", he writes (PhP, 341).

emotional value of space comes to the fore, for instance in mythology, in sleep, in state of madness and works of imagination.

Without delving immediately into all these various manifestations, let me refer to the mode most easily relatable, that of dreams. Once the external coordinates of reality are put on the shelf as it were, and I begin to dream, it is then that I "revert to the subjective sources of my existence" and can observe "the general spatiality in which clear space and observable objects are embedded."78 Our spatial values come to the fore in an especially pure form in dreams, for they are the occasion to leave behind the objective limits of daily life. The true existential value of space for us is expressed, no longer overshadowed by actual physical space when we are awake, but are revealed in sleep—as stars appear when not obscured by daylight. The space of dreams is marked by movement upward and downward, flying and falling, and Merleau-Ponty claims that these directions are the dream equivalent of our motions, in physical space, towards or away from our desires.<sup>79</sup> Feelings of rising, falling, being stuck in place, are primal undercurrent in our lives. This primordial sense of the vertical, belongs to a "mythical" sense of space that precedes objective space and has an original existential value. This ever-present sense of directionality and motion, always implicit in our experience of space, appears most prominently in dreams and in the mythical consciousness (as well as childhood and even insanity).<sup>80</sup> This undercurrent of symbolic and existential meanings would seem to hinder us from experiencing space as simply objective. Yet it allows instead for the vertical direction to serve as a symbolic register, not only for the existential orientations of personal space but also for public and shared spaces. Indeed, an existential orientation towards space and its dimensions seems to belong to embodiment itself.

#### 1.5 Conclusion to Part I (Chapter One)

Merleau-Ponty's account of space is an important complement to Husserl's portrayal of an originally egocentric orientation that accedes to objective space via the Other. For the former, do not see myself as an object in objective space prior to the experience of empathy, but in light of the latter I eventually grasp my body as an object and then come to perceive my movement against a background of objective space.<sup>81</sup> Drawing upon Husserl's later works, Merleau-Ponty offers an evocative account of pre-objective space, whereby I immediately and directly feel the location of my body in space, as an integrated whole that I can spontaneously and purposefully deploy in pursuit of a given aim or activity. In this mode, I reach various positions and execute activities with no thought to the objective locations of my body, thanks to the body schema. Pre-objective space is dependent on movement and anchoring, oriented and perspectival, characterized by depth, anchored to its surroundings. This is space of the lived body, which is always already at work structuring sensation.

<sup>78</sup> PhP, 330.

<sup>&</sup>lt;sup>79</sup> PhP, 331.

<sup>&</sup>lt;sup>80</sup> PhP, 342. Note that a blurring of subject and object is characteristic of this existentially oriented space, for Merleau-Ponty.

<sup>&</sup>lt;sup>81</sup> In a lesser known late essay, "Introduction to 'World of the Living Present" (in McCormick and Elliston's *Husserl: Shorter Works)*, Husserl speculates that walking from place to place can also serve to establish objective positions of places. See the "Concluding Remarks" of this manuscript for a brief discussion.

For the body itself structures our experience, not as a "bearer of localized sensations"<sup>82</sup> but as already mediating and shaping perception, as the very means by which space appears to us. The sense of touch is illustrative here: Husserl introduced the double-sidedness of touch, stressing the intertwined and reversible character of tactile sensation. Merleau-Ponty makes this reciprocity and reflexivity, characteristic of touch, the paradigm for our relation to the world, as evident in his ontology of the flesh. That is, I am constituted by the very recursiveness of being: I am not separate from being but fully within it and traversed by it. Our being is not that of a subject opposed to object, but is prior to this division; it is constituted of the perceiving and perceived flesh, a stuff it is not different from stuff of the world. For Merleau-Ponty, there is a certain reciprocity between myself and the world, such that it is unclear which structures come from which. These structures are neither imposed by the subject (as in idealism) nor do they lie outside of us in the object (as with empiricism).

The accounts of subjective and objective space given by Husserl and Merleau-Ponty are invaluable for laying the groundwork for a phenomenology of horizontality, verticality, and depth: namely, the interconnection of the three dimensions as felt within the body and linked to the outside world. This junction of the axes of the body and axes of the world is a crucial nexus, for how we perceive the internal and external axes, and correlate them both, involves the relation of subjective to objective space. It moreover involves the sense of orientation, if we understand this to mean the embodied subject's sense of his or her place, which is always here and now, in relation to the surrounding world. I will now further explore the subjective axes of the body and how they help to orient and structure bodily space.

#### 1.6 Part II: The Three Axes

In Husserl's investigations of lived space, he analyzed the way certain kinesthetic systems come together to register orientation and motion. Regarding the axes, Husserl analyzes how the visual field, itself directional, interacts with the kinaesthetic sensations of the body, so as to give a sense of what is moving and what is stationary in our outer world.<sup>83</sup> As is well known, he analyses perception as always partial, as synthesizing the manifold aspects of the thing (both visible and invisible, all taking place within a horizon of its possible appearances). His breakdown of the body's various sensible systems (visual, cephalomotor, kinaesthetic) and their relation is unparalleled in its rigor. Yet Husserl chooses to omit the vestibular responses of the body, the sense of weight and balance, despite his original and influential essay on the earth's role as a basis body for humanity, the "Origin of the Spatiality of Nature," as I will discuss in more detail below.<sup>84</sup> We will see that any notion of "imbrication" of body and world, through balance and gravity, through orientation to the vertical field of the earth itself, must wait for the development of Husserl's insights by Merleau-Ponty. For the latter, the body is always in immediate relationship to its surroundings through its own proprioceptive and vestibular functions.

<sup>82</sup> Husserl, Ideas 2, 152 (§36).

<sup>&</sup>lt;sup>83</sup> In *Thing and Space*, Husserl thoroughly explores the relation of visual and kinaesthetic sensations.

<sup>&</sup>lt;sup>84</sup> "Foundational Investigations of the Phenomenological Origin of the Spatiality of Nature" trans. F. Kersten in *Husserl: Shorter Works*, ed. P. McCormick and F. A. Elliston (Indiana: University of Notre Dame Press, 1981): 222-33. Hereafter cited as "Origin of the Spatiality of Nature."
This is seen most clearly in his discussion of body schema and the body's tendency to anchor to directional norms or levels in a given context.

## 1.6.1 The Axes of the Body in Husserl: Visual and Geometric Relations

In *Thing and Space*, Husserl explores the integration of visual and tactile senses to yield a sense of spatiality. Space is doubly constituted, he observes, once as visual space and once as tactile space. These are constituted independently of one another, but from this "double materialization" one identical space results.<sup>85</sup>

The visual field consists simply in that which I see, the limited expanse taken in by my open, unmoving eyes. It has its own center and its own up/down directionality that is independent of the up/down directionality of the body. The sensible content of the visual field is always combined with the kinaesthetic sensations from within the body. Together, the visual and tactile/kinaesthetic data is what gives me a sense of objects as stationary or moving, and of self in relation to perceived images of things. The visual field reflects movements of the body as well as movements in the outer world: for instance, rotating the head and neck alone or in conjunction with the body. The bodily motions are grouped by Husserl into various systems: the oculomotor, cephalomotor, and kinaesthetic. Through these, the visual field, as it appears in my eyes, can be changed by various types of bodily motion: moving the eyes in any direction (oculomotor movements), rotating or raising the head, (cephalomotor system) and finally rotating or relocating the body as a whole. Walking, for instance, involves moving towards certain points within the visual field, such that one goes "straight ahead' into the depth."<sup>86</sup> Yet the conjunction of visual and kinaesthetic experiences does not yet yield the objective thing, for Husserl, but merely a phantom, a two dimensional entity not embedded in the spatiotemporal causal nexus.<sup>87</sup> The axis of gravity is thus not an element in the visual field.<sup>88</sup>

Yet the visual and the oculomotor field *do* each possess a sense of up and down, and centrality. "The visual field, a strictly ordered system of two "dimensions" has its fixed orientations, and so does, accordingly, the oculomotor field as well."<sup>89</sup> For instance, if I look down to read a book, there is a top and bottom to my visual field, and thus a top and bottom of the page; there is a center to the visual field, and a left and right. The movements of my eyes also operate according to these lateral and vertical axes: If I move my eyes slowly left, the things seen in my visual field move to the right. The same occurs if I turn my head to the left, keeping my eyes still (for the visual field's axes and those of the head

<sup>&</sup>lt;sup>85</sup> TS, 132.

<sup>&</sup>lt;sup>86</sup> TS, 271. Note that in contrast to his theory of intersubjectivity in *Ideas 2*, Husserl puts forth various arguments as to how walking can serve to constitute objective space, in Appendices X and XI, respectively entitled "Subjective Self-Movement and Objective Corporeal Movement" and "Visual Space and Objective Space."

<sup>&</sup>lt;sup>87</sup> As Dermot Moran explains, "The presented sense content is coordinated with a complex of kinaesthetic sensuous experiences to yield the "sensuous schema" (not yet the full object, because temporality, causation, etc., have still to be considered). The visual field, and the oculomotor field, are only two dimensional and present only what Husserl called 'phantoms.'" Moran, Dermot, "Between Vision and Touch: From Husserl to Merleau-Ponty," in *Carnal Hermeneutics*, eds. R. Kearney & B. Treanor (New York: Fordham University Press, 2015): 217.

<sup>&</sup>lt;sup>88</sup> A phantom is an image, without weight; it is not subject to falling downwards, which is a form of causation. Thus it is not yet subject to the vertical of gravity which will become such a strong element of pre-objective space in Merleau-Ponty. <sup>89</sup> TS, 196.

are independent, just as the visual field and head are both independent of the body's axes). Both the visual and oculomotor fields are governed by horizontal axis and a vertical one: "we then speak of the orientation in breadth or in height. All the remaining lines of direction are, as it were, mixtures of these two," observes Husserl.<sup>90</sup> The directionality of the visual field is not that of the tactile field: "The field of sight has its own…central point and in relation to that, above and below, a right and a left (to be sure these expressions are not to be understood here in relation to the tactile domain)."<sup>91</sup>

What is most notable here is that the axes of the visual and oculomotor fields pertain only to what Husserl calls "pre-empirical" space, which is merely "a two dimensional continuous spread of colored images and shapes not yet conceived as a 'surface in objective space.' <sup>392</sup> Our relation to these images and shapes does not yet qualify as orientation, if we take the latter to mean relating and situating our subjective immediate sense experiences to an objective spatial order, i.e. a stable spatiotemporal causally governed world. The (phantom) entities remain subjective, and consequently our orientation to them cannot be integrated into the three-dimensional spatial field of the world as a united whole. Nor does the reflexivity of touch, which does allow the solipsist to constitute his or her own body, enable the instauration of firm and reliable relations to the surrounding world. For as we saw in Part I, the solipsist's body remains the egocentric center of my field of vision and motion; not situated within objective space. I am unable to leave my body in order to see it from without, as a figure on a ground or object in space.<sup>93</sup>

It is curious that Husserl's discussion of lived space, which includes meticulous discussions of the directionality of the visual field, and of tactile and kinaesthetic sensations in tandem with visual ones, pays scant attention to the verticality of the body as a whole, or to its feelings of weight and balance. The sense of falling, of moving against gravity, is generally experienced as a strong sensation, even alarming. Some later commentators have observed this lacuna, perhaps broadening the definition of kinaesthetic to include the proprioceptive and vestibular (see the observations of Jean Luc Petit, below). Yet it is not entirely clear what Husserl meant to include under this term. Dermot Moran concludes that Husserl does not "clearly indicate if kinaesthetic sensations include all forms of proprioceptive experience, muscle sensations, experiences of effort, force, balance and so on" but merely that they are "localizable in

<sup>&</sup>lt;sup>90</sup> TS, 196.

<sup>&</sup>lt;sup>91</sup> TS, 334.

<sup>&</sup>lt;sup>92</sup> Moran, "Between Vision and Touch," in Carnal Hermeneutics, 218.

<sup>&</sup>lt;sup>93</sup> Vision, unlike touch, is not localized in the body. Our purely seeing and stationary eye does not have a kinaesthetic sense of its own activity that would make us feel it at work—in contrast to our moving eyes or limbs. Seeing can thus never become reflexive in the manner of touch. The eye can only be known to me as an object by a combination of movement and touch. The body however can become known to me as an object by virtue of the "double-sensation" of my body touching itself. A "positional givenness" arises in my hand when it touches my leg, to use the example provided by Moran, for in doing so I both grasp the profile of the leg within my hand and feel in my leg that it is touched—and vice versa. Though reflexivity of self-touch I constitute the body as mine, as a "bearer of localized sensations: as Husserl will call it (See *Ideas 2* §36). Even so, this body as mine is not yet part of objective space either, for I see my body only from various angles, not as a whole; I am the ever-present "here" wherever I go.

the body and voluntary."<sup>94</sup> What makes kinaesthetic sensations central to the constitution of spatiality, for him, is my awareness of myself as freely moving to generate the corresponding change in perception; that is, what counts with kinaesthetic feelings is their "function of motivating presentational modifications," as Belgian phenomenologist Filip Mattens observed.<sup>95</sup>

Yet even while Husserl's lived body assimilates and integrates information about vision and motion, thus constituting spatiality, it remains nonetheless oddly disconnected from the very haptic and vestibular sensations that could otherwise bind and orient it to the external world; namely, weight and balance. This omission of vestibular sensations is all the more surprising since Husserl himself devoted an influential essay (albeit published posthumously) to the relation of humanity to the earth.<sup>96</sup> In "The Origins of the Spatiality of Nature," he holds the earth as a whole to be a unique setting for the human race, the "ark of all humanity." For is the basis for our perception of motion and rest as such, apparently unmoving, since we are always within its frame of reference—regardless of any post-Copernican (or ultimately relativistic) decentering.<sup>97</sup>Merleau-Ponty would return to this essay repeatedly in his later works, finding in Husserl's speculations the signposts towards a new ontology.<sup>98</sup> An exposition of the latter is beyond our scope, yet it is worth noting that Merleau-Ponty uncovers in Husserl's essay an important new relation between earth, body, and intersubjectivity: the idealizations that underlie objective space are founded upon a "a pre-objective relation among humans" along with a "pre-objective relation of humans to the earth."<sup>99</sup>

I have already suggested that Merleau-Ponty's discussion of pre-objective space points to our having an orientation to the world that transcends pure egocentricity, while being prior to and independent of objective space. Throughout his works, we find evidence of a new take on embodied subject's orientation: no longer a zero point of orientation that

<sup>&</sup>lt;sup>94</sup> Moran, "Between Vision and Touch" in *Carnal Hermeneutics*, p. 219. Husserl indeed seems to take a geometric view of motion, in terms of space and vision That he omits posture and balance is surprising, for while a phenomenological analysis would not exclude the vestibular system being inaccessible to consciousness, still the sense of weight and weightlessness, and certainly the sense of falling, are all experienced as strong sensations, entirely available to reflection and occurring in tandem with self-motion.

<sup>&</sup>lt;sup>95</sup> Filip Mattens, "From the Origin of Spatiality to a Variety of Spaces," in *The Oxford Handbook of the History of Phenomenology*, 570

<sup>&</sup>lt;sup>96</sup> The earth's importance to both orientation and verticality is explored in chapters 2 and 5 of this dissertation.

<sup>&</sup>lt;sup>97</sup> Yet here too, Husserl makes little to no mention of gravity or the body's relation to the earth, its upright posture, sense of balance, via this force. This is surprising insofar as no animate or inanimate thing undergoes motion or rest without their trajectory being influenced (animate beings) or determined (inanimate ones) by gravity. It is again likely that phenomenological rigor required the omission of scientific laws, which are not part of our original experience but constituted at a higher level. Yet once again, one might wonder why weight and weightlessness, and certainly the sense of falling, do not merit mention, being pure sensations, just not visual or *directly* tactile ones.

Husserl does refer to the earth as a 'basis-body" experienced at rest and in "unity with my corporeal animate organism" ("Origins of the Spatiality of Nature," 224). But this is not the same sort of unity that Merleau-Ponty will explore. Husserl's explorations of movement, kinesthesis, focus mainly on the visual field and the displacement of the body in relation to elements in this visible field. The body assimilates information about vision and motion, but does not join these to each other or become one with the external world.

 <sup>&</sup>lt;sup>98</sup> An ontology in which the earth becomes a constitutive structure of the body, according to Dylan Trigg. See "The Role of the Earth in Merleau-Ponty's Archaeological Phenomenology," in *Chiasmi International*, vol. 16 (2014), 250.
 <sup>99</sup> See "*Course Notes*," trans. L. Lawlor, in *Husserl at the Limits of Phenomenology*, eds. L. Lawlor & B. Bergo. (Evanston: Northwestern University Press, 2002), 73.

shifts from solipsistic to objective space thanks to intersubjectivity, it rather always has a prior and unconscious, bodily connection to the actual physical world. A situated subject is intertwined with the world not only at the level of immediate "incorporation" of habitually manipulated objects (the famous examples of the feather in the hat, the organ player, the typist); they are instead linked to the world by an ongoing alignment to the very dimensions of that world. The body is always already reaching out to get a grasp on the world, or as Ed Casey puts it, to find its foundations there: "if the lived body is an origin, it is one split against itself and seeking its own foundations elsewhere. For this body often takes its crucial clues from the world outside as well as from the heart within."100

The body seems to have a pre-objective sense of all the axial dimensions that are, almost paradoxically, implicit within the body and external to it at once. These axes are particularly clear and explicit in the phenomenon of anchoring, which so intrigued Merleau-Ponty in both the Phenomenology of Perception and Le monde sensible et le monde de l'expression.

# 1.7 The Axes of the Body in Merleau-Ponty: Casting One's Anchor in the World

Let us now take a closer look at Merleau-Ponty's account of how the body anchors itself to the surrounding world, according to Merleau-Ponty. For this fundamental relation supposes, I would like to argue, a connection to the spatial world that is always already present.

Merleau-Ponty posited spatial "levels" to which we align ourselves, that is, a tendency to align to a vertical or horizontal norm for any given situation or place. The determination of verticality is the most obvious case of anchoring to a level. The very "uprightness" of things, the fact that we consider things to have tops and bottoms, such that a face makes no sense to us unless we see it right side up, is due to our innate tendency to gear ourselves to align ourselves to a vertical and to see things as upright. My bodily orientation to any particular environment includes an implicit sense of the vertical. The latter is neither objective nor purely subjective; it arises from my body's perception and interaction with its surroundings. Merleau-Ponty alternately refers to this phenomenon as "anchoring" to a level, or being "geared" to one's surroundings. The term anchor will prove to be surprisingly precise, for it suggests both a temporary mooring and an attachment created through weight, two aspects that we find in the way the body vestibular system finds its vertical.

In general, my sense of what is vertical and upright is so stable that I do not notice it. For instance, if I tilt my head so the world appears slanted, or enter a forest where the trees are askew, or turn somersaults, the vertical remains the same for me. My body detects an external dimension that it takes to be upright. It does so by coordinating various visual, tactile, and kinesthetic stimuli. (The clear importance relevance of the vestibular system, both with regard to vertical orientation as well as the sense of being grounded in one's own body, is addressed further below).<sup>101</sup>

<sup>&</sup>lt;sup>100</sup> Casey, Getting Back Into Place, 81.

<sup>&</sup>lt;sup>101</sup> The vestibular system integrates a variety of sense information to establish a frame of reference that orients the lived body to the outer world. It tells the organism when it is standing upright, against the force of gravity. "Bringing the gravito-inertial force (GIF) vector in line with the body's main axis is the set value in any type of behavior." (F.W. Mast et al, "Spatial cognition, body representation and affective processes: the role of vestibular information beyond ocular reflexes and control of posture," *Frontiers in Integrative Neuroscience*, vol. 8, no. 44 (2014). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4035009. Our mode of standing upright; depends on our ability to

Since this anchorage to a vertical level is generally quite stable, we do not notice it while it functions normally. Rather, only when it is disrupted do we perceive our tendency to always be anchored to a level. We therefore take these levels to be objective and unchanging, up until the moment when some distortion produces the contradictory sense data that causes a given anchoring connection to collapse.

Merleau-Ponty discusses experiments that illustrate anchorage, both its disruption and re-establishment: the experiment conducted by Max Wertheimer, which modifies the actual surroundings, and the Stratton experiment, which modifies the sense data by inverting the visual field. In Wertheimer's experiment, a person is placed in a room that is made to appear slanted by use of mirrors, and sees only the latter. Initially the person is disoriented and unable to function in the space: "the subject is not at home with the utensils it contains, he does not inhabit it, and does not share it with the man he sees walking to and fro."102 Yet as he moves around and engages with objects in the room, he slowly comes to experience the new situation as "normal." That is, he spontaneously aligns his own bodily frame of reference to the tilted walls so that they come to seem "straight" for him. Merleau-Ponty describes the convergence between body and surroundings, the moment when the body finds its anchorage and establishes the nexus between bodily dimensions and worldly ones: "The spatial level tilts and takes up its new position. It is, then, a certain possession of the world by my body, a certain gearing of my body to the world."103 The room initially tilted comes to seem straight, something "shifts" so that I can orient to the new space, inhabit it. Describing this key moment elsewhere, Merleau-Ponty stresses the moment when the body merges with the world's directions: "the room that initially appears tilted comes to seem straight when I come to inhabit it, that is, when I 'annex it to the space of my body.' "104 A new set of anchor points is found, and a new level, or "spatial compact," is forced between body and world. This level becomes the new norm from which other levels are deviations. The determination of a spatial level occurs when my intentional movements "receive the responses they expect from the world," writes Merleau-Ponty.<sup>105</sup> That is, the incarnated subject anchors to whatever level provides the optimal situations for his or her aims. Note that the vertical is not objectively discerned in the world (one neither calculates nor senses the objective gravitational vector). Rather, anchoring to a level is a kind of compromise reached between body and world, established in response to the cues from a given situation; born within a subjective response it nevertheless feels as though it was already somehow there.

A few points should be drawn from the Wertheimer experiment above. First, one is always geared to some level, thus always oriented. "The perceived world is grasped only in terms of direction, and we cannot dissociate being from

align our body with the force of gravity, the line of gravity constitutes a reference point that takes us beyond the purely egocentric. "The GIF is an allocentric cue and its perception connects egocentric body-based coordinates with external world coordinates" (Mast et al).

<sup>&</sup>lt;sup>102</sup> PhP, 291.

<sup>&</sup>lt;sup>103</sup> PhP, 289.

<sup>&</sup>lt;sup>104</sup> Merleau-Ponty, *Le monde sensible et le monde de l'expression*, 79. [Note: translations from MSME are the author's, whenever provided].

<sup>&</sup>lt;sup>105</sup> PhP, 292.

oriented being" writes Merleau-Ponty.<sup>106</sup> This faculty is inherent in the lived body: "The very possession of a body enables the ability to change levels and to 'understand' space, just as the possession of a voice implies the ability to change key."<sup>107</sup> If the anchorage is disrupted, a new level is found, which is generally felt as a shift some prior level. "Every constitution of a level presupposes a different, pre-established level."<sup>108</sup> In any shift, the old level one is forgotten and the new level taken as "correct" or optimal: "I am wholly borne into the new spectacle and, so to speak, transfer my center of gravity into it."<sup>109</sup> My anchorage to the world is invisible because it is, at each moment, total and all encompassing; there is no trace of the old one in my memory or body. Only during the shift, the disorientation, do I become aware of the role of the body itself in finding its own settings, determining its own orientation.

Merleau-Ponty sees a similar sort of anchoring in the Stratton experiment, which explored the basis of our sense of "top" and "bottom." This experiment was highly artificial, necessarily, for it had to isolate a sense that was deeply ingrained. To detect it, one must look at atypical situations in which it "disintegrates and reforms before our eyes…"<sup>110</sup> Thus various subjects were asked to wear glasses that invert their field of vision, so that the visual field no longer corresponded with their tactile and kinesthetic field. They initially experienced the world as upside down. On day two, many began to feel that the world was right side up while their bodies were wrongly oriented within it (the visual and tactile worlds were no longer linked as before: the visual is reversed. Finally, over weeks, the subjects begin to realign their movements with the altered visual field. That the same situation can give rise to 1) inverted world and then 2) inverted body and then 3) neither inverted, but "more or less straight" was seen by Merleau-Ponty as evidence that something other was at work than "objective relationships as registered on the retina."<sup>111</sup> The lived body showed an unsuspected ability to find anchorage to a preferential level; clearly it was able to respond to sensory cues to create for itself, in pre-objective space, the optimal environment for its own functioning.

#### 1.7.1 Anchoring to Each of the Three Dimensions

Discussing the Wertheimer experiment in *Le monde sensible et le monde de l'expression*, Merleau-Ponty explicitly equates anchoring to a level with orientation, and furthermore notes that the phenomenon is neither subjective nor objective, but somewhere between. Orientation is "not linked to an aspect of world nor an aspect of body; it occurs at the point of their junction."<sup>112</sup> In the phenomenon of anchoring, one might say that the axes of the body and world begin to merge.

Anchoring to a level establishes my initial frame of reference between my body and world; *indeed anchoring is the very creation of this frame of reference*. For the relation of body to these levels is not alignment to objective benchmark; it is a product of the various sense systems of the body coming into accord with the various cues of a given place. The vertical

- 109 PhP, 293.
- <sup>110</sup> PhP, 285.

<sup>&</sup>lt;sup>106</sup> PhP, 295.

<sup>&</sup>lt;sup>107</sup> PhP, 293.

<sup>&</sup>lt;sup>108</sup> PhP, 290.

<sup>111</sup> PhP, 288.

<sup>&</sup>lt;sup>112</sup> MSME, 78

is the most prominent level, or benchmark to which we align, yet it pertains to the other dimensions as well, as Merleau-Ponty briefly but significantly notes, in an allusion to Wertheimer's other studies:

"Just as *top and bottom, right and left* are not given to the subject with the perceived contents, and are at each moment constituted with a spatial level in relation to which things arrange themselves—in the same way *depth and size* come to things in virtue after being situated in relation to a level of distances and sizes, which defines the far and near, the great and small."<sup>113</sup>

Levels for depth and laterality may not be as clearly evident, but it is clear that our orientation involves more than the vertical, since we "gear" ourselves to all three dimensions. "The vertical and the horizontal are ultimately to be defined as the best hold our body can take upon the world."<sup>114</sup> These other dimensions lack the clarity of the vertical, which is essential for functioning and balance, but at last there is some acknowledgment that lived space is oriented, in some fashion, towards levels in all three dimensions. The latter are not separated and distinct in advance; rather, they are all implicit in the fundamental and original experience of space as a whole, for "the vertical and the horizontal, the near and the far are abstract designations for one single form of being in a situation, and the presuppose the same setting face to face of subject and world."<sup>115</sup>

Our anchoring to levels arises in the course of our interaction with the world, and most importantly, via the unconscious integration of various sense fields with the situation we find ourselves in. These various senses—visual, tactile, motor, kinesthetic, and importantly, the vestibular, or postural sense— are all integrated by the body schema. Let me now take a closer look at the body schema as outlined in the chapter "Space and the Motility of the Body" in *Phenomenology of Perception*, to see how it relates to the notion of anchoring and levels, and thus to the allocentric references of external axes in the world. We will find that the body schema is closely linked to the experience of anchoring, and it is also, I propose, inseparable from a sense of the body's directional axes.

## 1.7.2 The Body Schema

The body schema is always mediating my experience of space, by giving me a sense of how my body is configured at any given moment. It also gives sense (both direction and meaning) to my peripheral space, as I shall explore below. Though Merleau-Ponty addresses the question only obliquely, it seems that the sense of three axes does have some basis in the body schema. For clearly, my body is given to me with some implicit feeling of verticality, laterality, and depth simply because I am spread out in space, always aware of my own front and back and how that results in things and space being given before and behind me. My sense of bilaterality means there is a right and left half to the world wherever I look, and my own articulation into head and feet brings with it an upright posture and a perpetual if unconscious awareness of my relation to the vertical. Is it not the case that I can only experience things as before me,

<sup>&</sup>lt;sup>113</sup> PhP, 310.

<sup>&</sup>lt;sup>114</sup> Depth, for instance, might be related to the optimal distance to a given object or objects, for a given situation or activity, Merleau-Ponty notes (PhP, 311). <sup>115</sup> PhP, 311.

behind me, above and below me, to my right and left, because I have an overall sense of my own position, my own selfarrangement? As Merleau-Ponty notes, "the self evidentness of top and bottom, right and left, for the person who has his being in space, prevents us from treating all these distinctions as nonsense, and suggests to us that we should look beneath the explicit meaning of definitions for the latent meaning of experiences."<sup>116</sup>

There is ample and explicit evidence that Merleau-Ponty saw the body schema as closely linked to the body's ability to find anchorage to dimensional levels within a given situation--as I shall explore further below. First, though let me note the significant overlap in the functions subsumed under these two terms: both anchoring and the body schema are enhanced by purposeful motion, both involve the integration of various sense systems, and both are related to the ineluctable sense of being "here" in a place, embodied as a self. After briefly reviewing the traits and function of the body schema, I will elaborate on its precise role in anchoring (and thus orientation to the three axes).

How we perceive our own bodies is a complex question. Bodily perception and self-representation include many elements, both conscious and unconscious, visual and non-visual, psychic and physiological. The body schema, distinct from the body image, was first introduced by neurologist Henry Head in 1920, to describe the ongoing awareness of the body's configuration and position in space.<sup>117</sup> It is a "pre-reflective awareness" of my posture in the sensory world, a benchmark of my position and location against which all movement is gauged.<sup>118</sup> On one level, it is a keen awareness of the location of my limbs and their unity at any time; but it is far more that, for Merleau-Ponty. It guides the motivated, purposeful movement of my body towards its aims, as we shall see.

#### a) Unity of the Senses

Merleau-Ponty followed Head's sense of the body schema as the dynamic functioning of the body in a given setting. He was well aware of this confusion between body image and body schema, and his analysis of their early conflation sheds light on the very functioning and nature of the latter. The earlier ideas of the body schema relied on an association: the sense of movement and tactility was linked to the sense of vision by habit (the regular feeling of one's own movement in tandem with the sight of one's own body).<sup>119</sup> In contrast to this associational account, Merleau-Ponty's body schema is better integrated, consisting of my global awareness of my posture in the inter-sensory world—a "form" in Gestalt's psychology's sense of the word. It results not from associating the contents of different senses by habitual

<sup>&</sup>lt;sup>116</sup> PhP, 116.

<sup>&</sup>lt;sup>117</sup> Sean Gallagher provides a thorough history of the concept and argues for maintaining a clear distinction between body schema from body image, terms that have been historically ambiguous, in *How the Body Shapes the Mind*, (Oxford, Clarendon, 2005).

<sup>&</sup>lt;sup>118</sup> Gallagher, How the Body Shapes the Mind, 61.

<sup>&</sup>lt;sup>119</sup> Merleau-Ponty describes the early associationist view as follows: "When the term body image was first used, it was thought that nothing more was being introduced than a convenient name for a great many associations of images, and it was intended merely to convey the fact that these associations were firmly established and constantly ready to come into play. The body image was supposed to gradually show itself through childhood in proportion as the tactile, kinesthetic, and articular contents were associated among themselves or with visual contents, and more easily evoked them" (PhP, 113).

experience, rather it is "in some way anterior to them and makes this association possible."<sup>120</sup>

#### b) Prereflective Awareness of Position

Thanks to the body schema, I have a prereflective awareness of my body's position and movements. I do not have to think where my foot is to tie my shoe, I reach for it. The spatial movements needed to manipulate the ordinary implements of life (a typewriter, a pipe, etc.) are prior to any reflection, known "indubitably", insists Merleau-Ponty.<sup>121</sup> I do not sense the position or location of my body objectively, but pre-objectively; that is, immediately and prior to any objectification: "the body schema and the body are located not where they are 'objectively' but where we are inclined to place them."<sup>122</sup>

#### c) Purposeful Movement

The body schema is not perceived per se. It is rather that which enables me to perceive the arrangement of my body and limbs in space. Most apparent when the body is in motion, and the limbs coordinated to some aim, it appears, for instance, when I am throwing a ball, reaching to open a window, playing the piano. It becomes indistinct when I am immobile.<sup>123</sup> For when I am motionless, I encounter my body only visually, and I thereby lose my sense of my body's unity. Sense data is felt to belong (or not) to my body when it is integrated into the whole. The most effective kind of movement for rekindling awareness of one's body schema is what Merleau-Ponty calls praxis, or goal-oriented, purposeful movement. This leads to an important point: my body schema, i.e. my ability to detect the full spatiality of my body in motion, is not merely positional, it is also situational—linked to the world around me and what I aim to do there. My body "appears to me as an attitude directed at a certain existing or possible task," and my sense of my movements in space are bound up with the concrete surroundings and intentions that give them meaning, or sense.<sup>124</sup> If I am leaning forward on my desk with both hands, for instance, my hands are stressed while the rest of my body, less prominent in my awareness, "trails behind them like the tail of a comet."<sup>125</sup>

## d) Localization and "Sense"

Besides keeping track of my own body's positional and situational spatiality, the body schema has another, equally important role. It gives me a sense of being "here," that is, the sense of being embodied in a particular body, itself anchored to in a particular place and context; it offers "a laying down of first coordinates, the anchoring of an active body in a subject, the situation of the body in face of its tasks."<sup>126</sup> Via the body schema, then, we are situated both within our bodies and within the world, and given existential moorings. Again, Merleau-Ponty: "In virtue of its being

<sup>&</sup>lt;sup>120</sup> PhP, 114.

<sup>&</sup>lt;sup>121</sup> PhP, 115.

<sup>&</sup>lt;sup>122</sup> MSME, 139.

<sup>&</sup>lt;sup>123</sup> We notice too when the body schema is altered, missing, or when its workings have been elucidated by cases of its loss or dysfunction. In pathological cases a patient may "find" his own limbs, since they are not spontaneously present, or may feel a limb is still present as a phantom after it has been amputated (See MSME, 139). <sup>124</sup> PhP, 114

<sup>&</sup>lt;sup>125</sup> PhP, 114-115.

<sup>&</sup>lt;sup>126</sup> PhP, 115.

polarized by its tasks, of its existence towards them...the body image is finally a way of stating that my body is in the world."<sup>127</sup> This remark reiterates the existential and oriented character of lived space, for it not only points to the immediate, unreflective ease with which I reach out for the familiar things of my world, as a "means of ingress into a familiar surrounding," it also points to the "deeper intentionality, which others have called existence" that comes into play only with the expressiveness, the sense giving of our movements.<sup>128</sup> Consciousness is always behind our movements, motivating them; if were not we would be mere mechanisms, intelligent and animated things. "My body is the seat or rather the actuality of the phenomenon of expression... it is the fabric into which all objects are woven... the general instrument of my 'comprehension,' " writes Merleau-Ponty.<sup>129</sup> Reading, typing, dancing, are all as much animated by the sense of the activity, the meaning, melody and flow, that animate the movements involved. An organist does not play his instrument in objective space, rather, "his movements during rehearsal are consecratory gestures; they draw affective vectors, discover emotional sources, and create a space of expressiveness as the movements of the augur delimits the templum."<sup>130</sup> The body's movements can thus be expressive, not only practical. Thanks to the body schema and the body, our movements are rarely devoid of *sense*. That is, they have both meaning and orientation, which are fused into one expressive gesture.

To sum up Merleau-Ponty's account of the body schema, it consists in our pre-thetic awareness of our body's position and movement and it is our way of "ingress" into the space around us; it is more evident during motion than rest, since mobility provides the (internal and external) sensory data integrated by it; its movements are expressive and motivated. It is thus linked to activity, purposeful actions, and expressivity. It is prior to any given sense field, not associational: it is what enables tactile sensations to be localized at all.

#### 1.7.3 The Body Schema In Place: Its Role in Anchoring

The body schema and the tendency to anchor to optimal spatial levels are closely connected in Merleau-Ponty's thinking. First, both seem to involve my very being situated within the world, spatially, whether I am "geared to my surroundings" via anchoring or "installed in space" by "annexing it to my body schema." In *Le monde sensible et le monde de l'expression*, Merleau-Ponty holds that aligning to a spatial level is tantamount to "annexing" the surrounding space to my body schema, such that I come to "inhabit" the space. Anchoring is a kind of "installation" of myself in a given space, a process whose result thereafter seems inevitable.<sup>131</sup>

Both the body schema and the anchoring body are gauged in relation to norms: "the body schema is always oriented

<sup>&</sup>lt;sup>127</sup> PhP, 115.

<sup>&</sup>lt;sup>128</sup> PhP, 119, 140.

<sup>&</sup>lt;sup>129</sup> PhP, 142.

<sup>130</sup> PhP, 168

<sup>&</sup>lt;sup>131</sup> MSME, 79. As Merleau-Ponty explains: Il y a toujours possibilité de changer de niveau: la chambre oblique parait plus tard verticale quand je l'habite, i.e. quand je l'annexe a mon espace corporel. ---Mais cette relativité ne veut pas dire qu'il ne soit que relations : car le choix des repères est opération d'installation dans l'espace, et, une fois fait le choix, ne rend possible qu'une perception" (MSME, 79).

towards privileged positions, or norms, and we are chiefly conscious of it insofar as it differs from these norms.<sup>2132</sup> The norm is the datum against which other movements gain sense or orientation, similarly to how sense in language is expressed as differences in meanings, for Merleau-Ponty. Spatially, my position with respect to my surroundings is measured against the norms (levels) of verticality, and to a lesser degree horizontality and depth.

Next, the body schema is the "index of our pre-thetic relations with space" and the means by which we are established in space."<sup>133</sup> More simply, it is ultimately "a way of stating that my body is in-the-world."<sup>134</sup> Recall that anchoring to levels imply a certain kind of being in the world: speaking of the subject's adaptation to the canted room, Merleau-Ponty resorts to metaphors suggesting the inseparability intertwining of the body with its surrounds: "a certain possession of the world by my body," a "gearing of my body to the world," and of being "wholly born into the spectacle."<sup>135</sup>

Both the body schema and anchoring involve the integration of different senses. The experimental subjects' sense of being anchored to a given level was disrupted when information from the visual and tactile (kinesthetic, vestibular) fields failed to correspond. The disunity was not experienced as such, as disparate sets of information, but at another level, that of fundamental orientation and disorientation. Gradually, through activity and acclimatizing, a new anchorage to a new vertical was established. The sensory systems were coordinated anew, or re-integrated, all on an unreflective level. Is this process not a sign of the body schema performing its invisible integrative function, of unifying the senses? For the body schema is "in some way anterior to them and makes this association possible."<sup>136</sup>

Finally, the sense of one's body schema is brought to the fore by purposeful action (requiring oriented movements) just as orienting or anchoring to levels was facilitated by practical activities.<sup>137</sup> (Disoriented subjects anchored to whatever new level promoted optimal functioning). The body's accuracy and effectiveness depend on this anchoring to a stable vertical. Such keen awareness of one's limbs and body is both the function and definition of the body schema. Through the body schema my body's spatiality is both positional and situational; I know where my limbs are and also how they relate to the immediate spatial context (desk, doorway, appendages); my intentions and aims (*i.e.,* to hit that target) are also involved. How could my movements attain any accuracy if my very sense of balance is not secured, thanks to a proper, visceral sense of up and down? My mobile body is not distinct from its environment, rather, as Merleau-Ponty notes, "movement and background are... artificially separate stages of a unique totality."<sup>138</sup>

<sup>&</sup>lt;sup>132</sup> MSME, 131, 139.

<sup>&</sup>lt;sup>133</sup> MSME, 143.

<sup>&</sup>lt;sup>134</sup> MSME, 115.

<sup>&</sup>lt;sup>135</sup> MSME, 291.

<sup>&</sup>lt;sup>136</sup> PhP, 114.

<sup>&</sup>lt;sup>137</sup> The disoriented subjects in the slanted room experiment managed to anchor to a new level more easily when they were engaged in practical tasks, performing motions where correct directionality of things mattered. In the experiments where the subjects were disoriented, the new level to which they anchored was the one that enabled optimal functioning and best facilitated their habitual activity.

### 1.7.4 Being in Situation: the Body Schema & the Vestibular System

By introducing the body schema, Merleau-Ponty has opened the door to a phenomenon that does not appear directly to our consciousness, but serves to better explain certain of its tendencies. It is worth closing, then, by looking at the role of some of the more recent physiological factors inherent to the body schema itself, according to contemporary research. We will find that the body schema, in contemporary discussions, even takes on existential question of selfidentity; surprisingly these questions of selfhood are closely tied to the vestibular system; the sense of weight and motion and balance, thus reinforcing the unconscious and pre-reflective compact between body and world as well as the stakes in play with the question of orientation.

The body schema is scientifically defined as pre-reflective integration of various sense signals coming from both within the body (tactile and proprioceptive senses) and from without (visual and auditory). As Sean Gallagher explains, the body schema is a performance whereby I dynamically organize the space around me: i.e., it is a "non-conscious performance of the body...an active, operative performance of the body...as it actively integrates its positions and responses in the environment" whereby the body "dynamically organizes its own spatiality in taking up certain postures and situating itself within its environment."<sup>139</sup> Another way of saying this is that one's bodily awareness, i.e. one's representations of the body's parts, its overall wholeness, and its relation to the surroundings, is a product of the prereflective integration of various sense signals coming from both within the body (tactile and proprioceptive senses) and from without (visual and auditory). Yet in addition to tactile and proprioceptive information, the role of the vestibular system in bodily spatiality is becoming ever clearer.

Related to the sense of balance, the vestibular system monitors the body's orientation with respect to gravity, helps coordinate changes of posture to ensure balance during movement, and it senses the direction and speed of our movements.<sup>140</sup> It has been shown to help integrate the personal space of the body with the wider domain of external space. Most notably, it contributes to a sense of self-location and one's body as one's own.

Regarding the integration of personal space, the vestibular system involves the ability to properly indicate the directions around oneself, and determining one's own direct axial alignment (and is thus related to our sense of laterality).<sup>141</sup> It has been shown as key for mental spatial transformations enabling taking another's point of view, that is, of the displacement of one's perspective, or egocentric frame of reference, to another viewpoint. Also, our wider sense of where things are located, beyond one's personal space, and the ability to relate oneself to them, involves the vestibular

<sup>&</sup>lt;sup>139</sup> Sean Gallagher, "Body Image and Body Schema: A Conceptual Clarification," in *Journal of Mind and Behavior*, vol. 7, no. 4, (Autumn 1986), 548.

<sup>&</sup>lt;sup>140</sup> All vertebrates have a vestibular system, such that their inner ear monitors their motion and position in all three axes of space, detecting movement forwards and back, up and down, side to side. It is also a stabilizing system that monitors stasis as well as motion.

<sup>&</sup>lt;sup>141</sup> For instance, vestibular disturbances have been shown to impair subjects' ability to point to targets in external space and to properly indicate the direction "straight ahead" of them. See L. Borel et al, "Unilateral Vestibular Loss Impairs External Space Representation," PLoS ONE, vol.17, no. 9 (2014). DOI: 10.1371/journal.pone.0088576.t002

system.

The vestibular system also affects the sense of being grounded in one's body and having one's own viewpoint. Disorders and stimulation of the vestibular system have been linked to various sorts of out-of-body experiences involving the sense of one's own body as "mine," and being "here," as well as seeing from that same viewpoint. Patients with vestibular disorders tend to identify with an illusory body, or feel like they are floating above their own bodies.<sup>142</sup> They are prone to identify with an illusory body, or feel like they are floating above their own bodies, they may see themselves from a different, elevated perspective. Some patients complain of "floating away" or feeling "as if I am not here."<sup>143</sup> Conversely, a healthy vestibular integration implies being grounded, or located, in one's body and feeling it as the locus of one's first person perspective. In short, the vestibular system appears necessary for the whole body representation in space that is at the core of bodily self-consciousness. It contributes to a sense of having a grounded viewpoint, which is my own. One neuroscientist characterized it as providing a "world-centered reference for the bodily self."<sup>144</sup> In short, the sense of verticality, weight and balance so key to the body's spatiality and situatedness in Merleau-Ponty, seems to be inseparable not only for the body schema but for the very sense of self and of being one's body.

The importance of the vestibular system for the bodily sense of space, both near and far, has not gone unnoticed in recent phenomenological circles. Jean Luc Petit, in "A Husserlian, Neurophenomenologic Approach to Embodiment," argues that Husserl's notion of kinaesthesia goes beyond the body itself and encompasses the further reaches of egocentric space:

"In the Husserlian theory of kinesthetic constitution that interests us here, the term 'kinesthesia' is only employed, for want of anything better, to designate both the lived experience of posture, the orientation of the motor organs of perception and movement, even the acts used to simulate like this movement from within. The kinesthetic sense does not limit itself to a proprioceptive, muscular or sinews sense of displacement of the limbs or the locomotion of the whole body... *Above all it implies our more mysterious vestibular sense of inner and outer egocentric space, with its coordinate axes rooted in the body*: our sense of our massive limbs and body going forward or backward, up or down, right or left or turning around; our sense of a change in velocity in this movement, our sense of effort, of effort or resistance against an alien force....."<sup>145</sup>

Describing our experience of lived space - always oriented and situated- must begin by re-including these most

haptic, visceral, internal sensations of "weight, balance and motion." Such sensations are organized along the axes of the

body and within its "massive limbs." These "coordinate axes rooted in the body" connect my phenomenal body to the

<sup>&</sup>lt;sup>142</sup> See C. Lopez et al, "A neuroscientific account of how vestibular disorders impair bodily self-consciousness" in *Frontiers in integrative neuroscience*, vol. 7, no 91 (2013). DOI:10.3389/fnint.2013.00091.

<sup>&</sup>lt;sup>143</sup> Ibid.

<sup>&</sup>lt;sup>144</sup> See C. Pfeiffer et al, "The vestibular system: a spatial reference for bodily self-consciousness" in *Frontiers in integrative neuroscience*, Vol 8, no. 31 (2014). DOI:10.3389/fnint.2014.00031.

<sup>&</sup>lt;sup>145</sup> J.L Petit, "A Husserlian, Neurophenomenologic Approach to Embodiment" in *Handbook of Phenomenology and Cognitive Science*, Schmicking & Gallagher, eds., 10.1007/978-90-481-2646-0. [Italics added.]

external world. It is through them that I gain a sense of being localized and oriented. And it is through them that I forge connections and alignments not only to my immediate locality but also, as I will to show in the subsequent chapter on orientation, to more distant and abstract regions beyond.

"Since the perceived world is grasped only in terms of direction," Merleau-Ponty writes, "we cannot dissociate being from oriented being.<sup>1</sup>

## CHAPTER TWO: ORIENTATION AND THE AXES

Orientation, an ability shared by all living beings, depends on an organism's axial anatomy and corresponding sense of lived space. In our spatial experience and motion, we have a sense of sense above and below, left and right, forwards and backwards, within our bodies and relative to them. At the same time, the space of the physical world is also experienced as three dimensional. Yet the mere fact of the body's tri-axial organization does not fully and adequately explains the three dimensional appearance of external space. Rather, we need to inquire into this very connection at a more phenomenological level: namely, how do the anatomical axes of the body also present to one's embodied consciousness, where they are moreover felt as extending into space, structuring it and linking oneself to it? My own internal coordinate axes are always already oriented with respect to some sensible reference in the world. These external references can be tangible (physical places, things or forces) as well as intangible (for instance, the county line, or the assumed position of some unseen destination). Orientation thus belongs to both the sensible and conceptual realms. It serves to merge our personal space to a larger, wider spatial order; that is, to situate our subjective frame of reference within a more objective one.

The aim of this chapter is to explore the role of the axes in orientation: both at the sensible level of immediate space, as the body's physical axes, and at the conceptual level, as structuring our representation of objective space. Somehow, we merge the immediate and physical sense of orientation, which is personal and visceral, with a more distant and conceptual representation of space, a wider and more abstract domain that is shared and intersubjective. These two modes of spatial orientation differ but also converge. Their overlap can be illuminated by comparing animal orientation (which relies on sensible cues) to human (which uses both sensible and conceptual cues). In the following chapter, I will look at orientation in the biological realm, then turn to orientation in the human realm, with its uniquely human conceptual tools and conceptions of space. First, however, I would like to elaborate upon what I mean by orientation, why it matters, and how it operates in our daily life, at both a public and private level.

## 2.1 Orientation: An Overview

At its simplest, orientation is one's ability to situate oneself with respect to one's surroundings; it is a relationship constituted by the embodied subject to its surroundings. As Elisabeth Ströker observed, orientation involves the "ambivalence of being a physical body and yet being beyond the physical body," for, as she continues, I am "constantly 'beyond' my body" insofar as I am perpetually involved in spatial relationships to things out of my reach, and aware of entities out "there" relative to my "here."<sup>2</sup> (Orientation is in this way not the same than touch or tactility, though it is

<sup>&</sup>lt;sup>1</sup> PhP, 295.

<sup>&</sup>lt;sup>2</sup> Ströker, 60-61.

related to them, as I discuss below). Orientation operates at a distance: it is a "relation from one pole towards another" such that "if either pole is lacking, orientation collapses."<sup>3</sup> It follows that "orientations are neither corporeal nor in or of things," Ströker adds.<sup>4</sup> Rather, orientation consists of relations between the embodied subject to the places and things of which he or she is aware, however clearly or dimly. Moreover, such relations are mainly constituted with things relevant to our own activity and aims, all of which are shaped by our primary desires and needs. To ask about the phenomenon of orientation is ultimately to ask about the way that I as an egocentric subject become aware of, and forge connections, both practical and meaningful, to my wider spatial world.

We tend to be oriented towards things that matter to us. Orientation consists of "primarily functional relationships first constituting themselves in the interplay between the acting body and the world to be acted upon."<sup>5</sup> We keep track of what affects both our survival and our well-being, such that our spatial world is imbued with sense, that is, both meaning and direction. Like the body's movements in its immediate personal space, so too does orientation in the wider world involve what calls for our practical action and agency. If bodily space features a kind of pre-objective direct contact with the things we engage with, such I intuitively reach for the objects I most often need, is this not also somewhat true of the space beyond my body? We are familiar with the ease with which a person engages their immediate space and habitual tools, such that the latter become extensions of their body schema: Merleau-Ponty's famous examples are the organist at one with the organ, the hat with the feather which one intuitively protects. Yet if our movements in this near range are so closely bound to objects that they become part of it, such that "to move one's body is to aim at things through it; it is to allow oneself to respond to their call," as Merleau-Ponty writes, might this not also be true of things aimed at, which are further away? Just how far might this intertwining of self and world actually extend?<sup>6</sup>

### 2.1.1 Orientation, Affect, and Touch

Orientation is related to the sense of touch; paradoxically, since touch involves the body's coming into direct contact while orientation is more of a relation across distances. Yet both have to do with putting us into connection with the outer world and discerning the value and significance of what surrounds us --near or far. The intimate connection between orientation and touch is made evident by Richard Kearney in his work on "carnal hermeneutics." For Kearney, all sensation involves interpretation—that is to say, making sense, and this is particularly true for the sense of touch, he suggests, where the three connotations of sense (sensation, meaning, orientation) are all bound together.<sup>7</sup> As the "most complex and elusive sense," touch is anything but mechanical contact with a particular organ; it is present throughout the body.<sup>8</sup> Like the body schema in tandem with the vestibular system, touch is localizing rather than localized; not only

<sup>&</sup>lt;sup>3</sup> Ströker, 67.

<sup>&</sup>lt;sup>4</sup> Ströker, 64.

<sup>&</sup>lt;sup>5</sup> Ströker, 64.

<sup>&</sup>lt;sup>6</sup> PhP, 160.

<sup>&</sup>lt;sup>7</sup> Richard Kearney, "The Wager of Carnal Hermeneutics," *Carnal Hermeneutics*, eds. R. Kearney and Brian Treanor (New York: Fordham, 2015), 16-17. Republished as "Philosophies of Touch: From Aristotle to Phenomenology" in Richard Kearney's forthcoming work *Touch*, *Recovering Our Most Vital Sense* (New York: Columbia University Press, 2021). <sup>8</sup> Kearney, 26.

of ourselves but of otherness with respect to self.

Touch acts as a bridge between self and world; it puts us in contact with beings near and far. It already contains the possibility of reaching outwards, in all directions. There is an intentionality in the body that reaches towards the world. Touch entails "a reaching across distance, a leap over a gap or caesura between self and other."<sup>9</sup> Kearney illustrates how touch is both "orienting and interpreting" from the very beginning of life: a child seeking its mother's breast is not "merely reacting to a stimulus but responding to a call."<sup>10</sup> If touch is making contact with those beings whom we need and love, perhaps orientation is keeping track so that we might find them again. Touch bridges distance and closes gaps, so mightn't we see orientation as this sense of direction and distance, implicit in touch, prior to any closure or contact? For this reason orientation seems able to broaden and intensify the role of touch. Through it, the sense of touch inherent to flesh is cast further outwards, reconfigured and dematerialize, in what we apprehend as the concrete spatial order of the world itself.

Both orientation and touch aim at discerning differences so as to seek out whatever serves our survival or flourishing (or avoid that which does not). Touch, for Kearney, is therefore laden with the most personal of meanings, so that one's "simplest sensations are already shot through with all kinds of values and desires, withholdings and yieldings."<sup>11</sup> So too does all orientation, in its close kinship with touch, share in these feelings, with all their nuance and intensity, that flesh discerns.

#### 2.1.2 Orientation as Self-location

Our sense of being oriented to a given setting or place is often so basic and banal that we do not even notice it until it is disrupted, as when I am lost, for example, or disoriented. Waking up perhaps in a place or city that is not habitual, I might have a firm conviction I am in an entirely different place, projecting a set of expectations and intentions that is no longer the case. This prior sense of my surroundings that is there, latent, always and already established, a kind of sixth sense. We are oriented not only in space, but also in time and even in person.<sup>12</sup>

From a biological perspective, orientation consists in the ability to position and move one's body with respect to one's surroundings. Operating both consciously and unconsciously, it involves coordinating the axes of one's body with respect to conditions and cues in the world outside the body. Each axis of the body (the vertical, the forward/back, the lateral) opens up a degree of freedom of motion, and each opens up different possible modes of action and perception, as we will explore below. Some of these physical aspects of orientation are comparable for all living beings, from fish to humans.

On the other hand, human orientation differs greatly from that of non-rational beings, for it involves not only a physical framework but also a conceptual one. The space of the lived body is expanded using maps, geometry, language,

<sup>&</sup>lt;sup>9</sup> Kearney, 21.

<sup>&</sup>lt;sup>10</sup> Kearney, 21.

<sup>&</sup>lt;sup>11</sup> Kearney, 28.

<sup>&</sup>lt;sup>12</sup> Asking "Where am I?" and "What time it is?" upon regaining consciousness are signs of a sound cognition, indicating that our normal waking state involves ongoing awareness of how our personal space and time fits into a larger order.

memory, and, especially lately, technology. Our reach is thus both immediate and beyond. We represent space abstractly through maps, lines of latitude and longitude, Cartesian grids; we impose geometrical schemes and political boundaries on it, we use ever advancing technology to increasingly guide our every movement. And we rely on clocks and calendars to keep track of time. Thus orientation has many levels. On a fundamental and personal level, it is my own very palpable and unique stance in the world. It helps me to keep my bearings and grasp my immediate surroundings, not just physically but also temporally. I am the "nullpunkt" of orientation, egocentric, and forever grounded in the "here" of my own body.

Yet my "here" is not a simple point.<sup>13</sup> It is always in relation to a background that one's body is a "here" at all (otherwise it would be everywhere) and this background is not without order but is, for me, structured by the axes of my body. The latter seem to both originate from converge in the body, do not seem to end where it ends, but continue further into the space around me. I am thus not "here" as a point in space, but as a convergence of dimensions and possible directions extending out to the world.<sup>14</sup> Moreover, my sense of "here" is always part of a larger context, both physically (sensed) and conceptually, as Ed Casey makes abundantly clear.<sup>15</sup> I am "in the world" both locally and beyond. My fragment of time and space is always continuous with, and situated within, a larger context. I am most fully oriented when I understand how my own personal experience, my personal frame of reference, aligns with the larger, public or objective order.

"You are here" is a phrase we may read if, disoriented in a vaguely familiar city, we come across a helpful public placard. This generic public reminder helps me to coordinate my personal space with the measured space of the map and to the public space of the city. It is something akin to a public clock, that would remind me of the local hour. However, seeing where I am in my mental model of the city or region does something special, something that finding out the current time somehow does not do. Sensing my orientation, my place within the whole, gives me a different perspective on myself, from without, or rather, within the larger scheme of things. I can (conceptually) take the non-embodied, view from nowhere—or at least understand that there is such a position, which transcends my own perspective.

This example of the "you are here" sign shows how our orientation within space, and our representation of it, is influenced by two factors: a capacity for abstract thought and a membership in an intersubjective community. We inhabit not only sensible and immediate lived space, but also, and perhaps simultaneously, a publicly constituted social space as well as an objective (systematic Euclidean) space. We inhabit not only space as perceived by the body but also conceived by the mind. As Piaget himself noted, the task of the imagination is to "to extend space beyond the confines

<sup>&</sup>lt;sup>13</sup> Nor does the body have a single center: the visual field has its own center, as does the head; similarly the sense of "here" is malleable.

<sup>&</sup>lt;sup>14</sup> My foot, on which I am sitting, is between my torso and the chair, as a kind of cushion. I know my foot is below me, just as I know the cushion is; since both are directly beneath the axis of my spine. Children learning to tell right from left tend to refer first of all to their hands before judging whether a given external object or direction is right or left. They can then refer to their sense of right and left to order the space of the world around.

<sup>&</sup>lt;sup>15</sup> See Casey, Getting Back into Place, 50-54.

of the perceptual field."16

In short, orientation at the wider level involves an alignment of personal and public frames of reference, and also an extension of the personal through the public. This does not mean that our experience of our personal space is subsumed within a public or objective order. I do not (necessarily) forego my personal experience when I situate it with respect to collective references, for orientation is not a passive experience but a relation that I establish and maintain myself, from wherever I happen to be situated. And just as one cannot be free without self-conscious awareness of one's freedom, so too one cannot be conceptually oriented to the larger whole—in space and time—unless one is aware of being so. For this to happen, we need a schematic understanding of the whole and of one's present relation to it.

Furthermore, we are always embodied, and it is upon the body that all orientation depends. This means that preobjective, lived space will always be our primary experience. It holds an existential significance that is untranslatable into any objective terms, for lived space is colored by the existential anxieties and joys of embodiment and by our ongoing quest for survival and flourishing. Similarly, the dimensions of verticality, depth, and laterality are always marked with the emotional value of lived space. They form a bridge between the lived body and the world, one that is both physical and conceptual, visual and haptic, personal and public. The existential and emotional undertones of each of the dimensions will be the focus of subsequent chapters. To begin with, let us return to the origin point of all orientation and axes, the body.

### 2.2 Orientation as a Function of Anatomy

A classic textbook on animal orientation by Hermann Schöne, *Spatial Orientation*, describes orientation as "all movements and states that are, or were, actively ordered in space.<sup>17</sup> Orientation involves positioning oneself and organizing one's movements with respect to some external reference or sensory stimuli; every orientated movement is "characterized by its specific geometrical relation to a stimulus."<sup>18</sup> A living creature capable of orienting itself is one that can relate the position and movement of its body, or parts thereof, well as foreign objects, to specific spatial cues.<sup>19</sup> All biological actions and behaviors entail orientation, for instance in self-transit, seeking food, catching prey, social interaction, or navigating to a new area. Moreover, orientation includes different modes of movement, from self-positioning (rotating about one's three axes in the degrees of available freedom of motion), to translation (changing place) to wayfinding (charting a path to a distant goal). In all of these, the axes will play a major role, as we shall see.

Because orientation relies on sense data from the surroundings, the space of biological orientation is a space filled with tangible qualities. Schöne explains that "for an animal and its behavioral organization the abstract concept of space has a very concrete meaning....the ground upon which it walks, the sun towards which it turns, the blossom to which it

<sup>&</sup>lt;sup>16</sup> Jean Piaget and Bärbel Inhelder, *The Child's Conception of Space*, trans. F. J. Langdon & J. L. Lunzer (New York: W. W. Norton, 1967), 451.

<sup>&</sup>lt;sup>17</sup> Hermann Schöne, *Spatial Orientation: The Spatial Control of Behavior in Animals and Man*, trans. C. Strausfeld (Princeton: Princeton University Press, 1984), 4.

<sup>&</sup>lt;sup>18</sup> Schöne, 5.

<sup>&</sup>lt;sup>19</sup> Schöne, 6.

flies....<sup>20</sup> Oriented behavior is thus highly attuned to the sensible conditions of the environment. This relation is not one of cause and effect, but of responsiveness. Environmental stimuli are necessary but not sufficient for oriented behavior; the former must be met with the animal's ability to perceive and respond accordingly.<sup>21</sup>

## 2.2.1 Basic Modes of Oriented Movement: Positional and Translational

Two distinct sorts of self-movement are available to animals: change of position and change of place (often combined). The first of these, positional translation, consists in "turning on the spot", i.e., turning one's body along any of its three axes to better position oneself with respect to the surroundings. One might lean forward or backwards to preserve balance; turning left or right might help focus on a sound, or keep one's face out of the wind. Positional orientation aims to find the best rotation of one's body within a given environment. It also helps an organism maintain its "normal" stance—the preferred position in which it is balanced and thus expends the least energy, for instance, in a state of repose.

The second sort of self-motion is translational, or goal oriented orientation. It involves movement from one place to another, towards or away what is desirable or avoidable, and it involves both direction and distance. Since any (practical) movement is always towards or away from a goal, the relevant axis is the one along which one naturally moves forward or backward, which is the front/back axis for humans and the longitudinal one for animals. The goal or target can be direct or indirect; that is, either nearby and present to the senses, as with hunting food or prey, battling a rival, or hidden and distant, as with migration.<sup>22</sup> Spatial qualities such as temperature, light, gravity and magnetism are particularly important for all indirect orientation, that is, for navigation. The bilateral structure of many organisms makes them suited for navigating in spatial fields thus imbued with some diffuse quality. For instance, imagine a region of graduated intensity, such as scent, temperature, or sound. An animal's typical behavior is to follow the steepest gradient within the field, by taking a position that creates equal intensity of the stimulus on both of its sides. By maintaining this bearing, the animal naturally follows the most direct path to the goal. In the case of a uniform field, such as wind or polarized light, the animal can maintain a steady bearing by maintaining a given angle with respect to the axis of flow or intensity.<sup>23</sup>

### 2.2.2 The Three Axes in Biological Orientation

Each bodily axis is unique in terms of its sense organs, structure and morphology, and plays a specific role in the body's relation to surrounding space. The long axis pertains to uprightness and stability, the axis of depth with gauging distances to things, linked to vision and motion, and the lateral axes serves to weigh differences and keep one's bearings.

#### a) The Vertical Axis of Balance

Gravity is one of the most important spatial references for animals, whether terrestrial, aquatic and aerial. A sense of the balance allows maintenance of the normal upright position that helps a living creature move most effectively and find the optimal position relative to its surroundings. Balance is important both in positional orientation (rotating in one

<sup>&</sup>lt;sup>20</sup> Schöne, 4.

<sup>&</sup>lt;sup>21</sup> Schöne, 19.

<sup>&</sup>lt;sup>22</sup> Schöne, 14.

<sup>23</sup> Schöne, 13-14.

place) and translational movement from one place to another. For instance, a primate tends to make long leaps only towards the most vertical trunks; birds prefer landing on horizontal branches since these are easier to balance on.

The vertical axis is the axis where an organism's body is most strongly influenced by an objective external force, that of the gravitational vector. Yet our perception of verticality is influenced by our visual and haptic senses, ideally working together to generate a sense of verticality. <sup>24</sup> We are never not aligned to some vertical, even if this is usually (but not always) unconscious.<sup>25</sup> Verticals (and their implicit perpendicular, the horizontals) dominate the landscape and influence the behavior all organisms--for all animals use a sense of balance to manipulate and place objects in a stable way, whether putting up a nest, a mound, or a city. A sense of balance is key, again, not only for optimal functioning, but for a sense of safety and calm. A person threatened with imbalance or falling responds quickly and urgently, not only physically (with an increased heart rate) but also with elevated anxiety, and if balance is not quickly regained, the physical and emotional distress grows quickly more severe.<sup>26</sup> Humans alone stand upright with the vertical, changing the orientation of their physiology (Chapter 3 further explores the ramifications of the upright stance).

The animate and inanimate world is filled with vertical elements, but we perceive these only visually. It is only through one's own body that a sense of the haptic vertical is felt, via the sense of balance and weight.<sup>27</sup> The body's rather amazing ability to sense both a visual and haptic vertical lets it function as a kind of spirit level: we are able to gauge the external alignments of things by comparing them to our own body angle. Schöne describes this essential intermediation of the body's posture in determining a simple visual vertical, i.e. to straighten a picture frame. This action, deceptively simple in reality, involves more than just my reaching out to line the picture frame with the vertical; instead I compare the picture's angle to that of my own body axis which we independently compare to the vertical axis.<sup>28</sup> Our visual grasp of the vertical world is thus intertwined with our physical, haptic sense of it, for again, the body registers not only its own verticality but also serves as a benchmark for detecting whether other things are properly vertical.<sup>29</sup>

<sup>&</sup>lt;sup>24</sup> The lines of gravitational force radiate out from the earth's center, perpendicular to the earth's spherical surface. This is distinct from the perception of the vertical: spatial cognition research has identified both a Subjective Visual Vertical and the Subjective Haptic Vertical; with the former biased more to the body than the latter. (Lindsey Fraser et al. "The Subjective Visual Vertical and the Subjective Haptic Vertical Access Different Gravity Estimates,"

*PLoSONE* 10(12):e0145528, https://doi.org/10.1371/journal.pone.0145528. The Stratton and Wertheimer experiments discussed by Merleau-Ponty explored responses when visual and haptic stimuli greatly differ.

<sup>&</sup>lt;sup>25</sup> The body is inclined to find a vertical axis in any setting, as shown in experimental settings where the visual and kinesthetic fields were artificially set in opposition. It 'anchors' itself to a given vertical (and horizontal) "level," to use Merleau-Ponty's phrasing. Regarding the first aspect, anchoring is not objective but reestablished in any given setting. As mentioned in Chapter One, a change in the visual or vestibular input will disorient the subject's sense of the vertical, momentarily, until a new level is established. Regarding the second aspect, the body's alignment with a given vertical is influenced by its weight, that is, the pull of gravity; for the vestibular system relies on the inner ear and other bodily sensors to sense the gravito-inertial force (GIF) vector.

<sup>&</sup>lt;sup>26</sup> Mast et al, "Spatial cognition, body representation and affective processes." (see "Discussion," paragraph 2).
<sup>27</sup> This keen sensing of the gravitational vertical, and maintaining balance to it, is handled by the vestibular system. The latter integrates cues from various sources: the inner ear (with its three semicircular canals sensitive to axial motion), vision, and proprioceptive feedback about limb position and zones of internal pressure. All vertebrates have a vestibular system, such that their inner ear monitors their motion and position in all three axes of space, detecting movement forwards and back, up and down, side to side. It is also a stabilizing system that monitors inertia, or stasis, as well as motion.

<sup>&</sup>lt;sup>28</sup> Schöne, 25.

<sup>&</sup>lt;sup>29</sup> It should be reiterated that this keen sensing of the vertical, and maintaining a balance regarding it, is achieved by the vestibular system. The latter integrates cues from various sources: the inner ear (with its three semicircular canals

On the other hand, gravity, so key for balance, is not the only vertical cue used for orientation. Particularly in long distance orientation (migration), more celestial sources come into play: these include the sun and stars, polarized light, angles of sunlight and moonlight, and magnetic fields. Non-terrestrial creatures, such as birds, fish, and insects, rely on such non-gravitational cues.

#### b) The Front/Back Axis of Motion and Depth

The coronal plane divides the body into dorsal and ventral sides, and it also defines the direction, or axis, of forward motion. Vision, hearing, taste, smell, all define the direction "forward" and "frontal," being positioned so as to guide forward movement. All these key sense organs are gathered at the head and face, the bodily region generally serving as the point of confrontation between self and world. In other words, frontality is the dimension in which a living being gauges its distance to other things or beings. Distance is perhaps the key parameter for survival: since questions like proximity to one's food, rival or mate, or how far one can safely wander from home, are matters of life and death. It follows that depth perception is essential for positioning oneself at the most vital moments. The sense of depth is especially acute in predatory animals, which must strike their targets on the first attempt. Indeed, the very ability to see depth is reflected in the face itself: predatory animals needing strong frontal stereoscopic vision have eyes placed close together in front, as evident in the heads of eagles, wolves, snakes, sharks and humans.<sup>30</sup>

In contrast to the up/down axis of the body, the front/back axis has no external correlate: the way "forward" is whichever direction we happen to face. Indeed, determining which direction to face is the very function of the frontal sense organs—in conjunction with the bilateral ones, as we shall see below. In other words, all earthbound creatures are not only the center of their surrounding space, more specifically they are bound, given their triaxial structure, to face in a given direction—forward—on a horizontal plane, and to move more or less in a line. Naturally, any direction on the earth's relatively flat surface can be taken-one can always turn right or left, north or south, but one always has a direction, or bearing on it. Terrestrial beings may even be hard-wired to navigate on a horizontal plane, in contrast to avian ones. Recent studies into spatial cognition have indicated that land animals do not model their habitat in three dimensions; instead the "space in the plane of locomotion" seems coded and represented independently of the vertical axis.<sup>31</sup>

## c) The Bilateral Axis of Symmetry

Lateral symmetry has a functional purpose, that of distinguishing differences of sense in one's surroundings, which is crucial for ascertaining locations. The symmetrical sense organs enable an animal to locate the direction of some external entity or stimulus via triangulation, they are essential for movement and balance, and they help maintain a

sensitive to axial motion), vision, and proprioceptive feedback about limb position and zones of internal pressure. <sup>30</sup> Prey animals such as rabbits, fish, and deer, defend themselves by means of a wider field of vision, so their eyes are further to each side. They can avail themselves of stereopsis only in the small zone of their field of vision where both eyes overlap.

<sup>&</sup>lt;sup>31</sup> Kathyrn Jeffery et al, "Navigating in a three-dimensional world," in *Behavioral and Brain Sciences*, Vol. 36, Issue 5 (Oct 2013): 523-543. Jeffery adds, "We argue that the mammalian spatial representation in surface-travelling animals comprises a mosaic of these locally planar fragments, rather than a fully integrated volumetric map,"

"normal" balanced position with regard to outer stimuli, by equalizing differences, as I will discuss below.

In the case of locating an external stimulus, the symmetrical structure of paired sense organs (ears, eyes) allows for triangulation that helps indicate the direction and distance of the stimulus. Depth perception, for instance, indirectly draws on visual triangulation that occurs when one object is seen by two eyes: the nearer the object, the greater the discrepancy between the two images. In the case of the ears, it is a time lag between the two symmetrical organs that helps location of external objects. A sudden outside sound will reach the two ears at slightly different times. The time interval is the greatest if the sound comes directly from one side and smallest (or equal) when sound comes directly from front or back. The difference in delay enables perception of the sound's direction. This is also true of animals sensing differences of temperature, of chemicals in the atmosphere, etc.

The balancing or comparing of stimuli on both sides works on the level of the whole body as well. Since asymmetrical stimulus causes "unequal excitation and unequal response/activity from the muscles", the tendency is for the animal to turn until both sides receive equal stimulations, attaining a "normal position."<sup>32</sup> Maintaining such an oriented state represents the activity, not the inactivity, of the sense organs, since the stimuli must be continually monitored to maintain equilibrium. Any deviation to one side or another (away from the course established) creates an imbalance that leads to a correction. Cows, for instance, turn their hindquarters to the wind, fish turn to equalize the temperature on both sides. A normal position conserves energy because it restores symmetrical activity to the body."<sup>33</sup> This maintenance of balanced sense input from both sides is important not only for positional equilibrium, it is essential for holding a steady path, by turning until the stimulus is balanced: the animal is pushed to face the direction of the steepest gradient. This will ultimately be the shortest path to its goal. For instance, if an ant is seeking to move towards a food source, it simply turns until the scent is equalized on both its left and right antenna, and will then be on the shortest path.

Finally, the symmetry of the body is vital to balance and stability during motion. The equalizing of sensations in the arms and legs enables walking and standing, swimming and flying, in short, any sort of forward motion. The differential between the sides is of course, conversely, how we manage more complicated asymmetrical motions. Balance with respect to gravity depends on equalizing the weight between the two sides, just as balancing the stimuli to the symmetrical senses results in holding a straight line. Thus the right/left axis plays a supporting role to the forward/back axis, helping determine one's bearing, as well as being essential to equilibrium.

As we have seen, each of the axes plays a unique role in the behavior of living, sensing beings, from the simpler animals to the most complex. The axes, in coordination, enable orientation in two ways: rotating the body to find a suitable position in place, and moving to a new destination (positional and translational orientation). At the biological level, common to humans and animals, the axes of the body are specifically geared to enable purposeful positioning and movement in response to external stimuli. The axes influence our degrees and kinds of motions: the vertical is

<sup>32</sup> Schöne, 59.

<sup>33</sup> Schöne, 60.

experienced within as a sense of weight and balance, the frontal has to do with depth perception and confrontation or holding a bearing, in tandem with the bilateral or left right axes that enable both triangulation and equalizing external stimuli so as to maintain a bearing. All the sense organs enable us to move more purposefully and with greater awareness in the immediate sensible world. Animals perform remarkable feats of orientation, perhaps without having any conscious knowledge of how they do so. Human beings are incarnated around the same bodily axes and subject to the same sensory stimuli as the animals, yet we supplement this with various conceptual frameworks --and thus create another level of worldly spatiality.

#### 2.3 Human Orientation: Conceptual and Abstract

So far we have dealt only with the physiological aspects of orientation, common to all animate creatures, and have not left the realm of the sensory. Nor have I thoroughly described the subjective feeling of the three axes, i.e. the sense of having right and left sides, the sense of balancing or falling, the experience of distance and depth. The lived particularities of each dimension as incarnated in the body will be addressed in the subsequent chapters, along with closer study of the relation between bodily and worldly instantiation of each. But prior to delving into the individual dimensions, let me turn to the more general question of orientation to what is not immediate and sensible, but rather to spatial parameters that are intersubjective and/or abstractly established references.

For reasoning creatures, a new set of possibilities opens up for orienting to a wider, more abstractly structured world. Humans represent space and time in ways that do not depend on direct sense perception, using frameworks that go beyond peripersonal space.<sup>34</sup> We know that space continues beyond the horizon, or knowing the cardinal directions, having words for right and left, knowing about national boundaries, and the presence of other viewpoints. In addition to the personal frame of reference (lived, egocentric space) we acquire public ones based on collective knowledge and convention.<sup>35</sup> We transpose, extend, and transcend our personal frames of reference with a range of conceptual means:

<sup>&</sup>lt;sup>34</sup> As neurobiologist Barbara Landau writes, "Using maps depends on having basic mechanisms of orientation in place, but maps take us beyond the present, supporting our ability to know and understand spatial layouts without having experienced them firsthand." See "Spatial representation across species: geometry, language, and maps," *Current Opinion in Neurobiology*, Vol. 19, Issue 1, Feb. 2009, pp. 12-19.

<sup>&</sup>lt;sup>35</sup> An in-depth explanation of the differences between the types of reference frames is found in the study by Tobias Meilinger and Gottfried Vosgerau, "Putting Egocentric and Allocentric into Perspective" (*Spatial Cognition VII: International Conference Spatial Cognition* 2010). A spatial reference frame is a spatial field that is anchored to a particular reference point, for instance, the self, or a cardinal direction, or a point 0,0. Humans rely on both *egocentric* and *non-egocentric* frames of reference for orientation and for wayfinding. The latter include *allocentric* (other-centered) and *absolute*, or perspective-free, frames of reference (these normally rely on cardinal directions). Which frame, or combination of frames, is called upon depends on the circumstances as well as the navigator's level of spatial skill (208). In the egocentric frame of reference, spatial locations of things are given with respect to the subject, using a coordinate system centered on the subject's body, normally the torso Thus the location of the river is "to my left," the house is "behind me," the trees are "above." In the allocentric frame of reference, the central point of the coordinate system is transposed onto a feature or features within the environment, i.e., the river is behind the house (the house is now the point of reference). A non-egocentric frame "codes relations between objects, independent of the observers' orientation" Thus I can say both that the river is behind the house (frame centered on the house) or that the river is to the left of the house (frame centered on myself, standing east of the house looking west).

For each of the frames of reference there is a corresponding mode of wayfinding, the ability to get from one place to another in an unfamiliar environment. Wayfinding, a basic survival skill in all ages, is simply the ability to keep track of our location and our orientation to the surroundings, to avoid getting lost. When finding our way, we rely on reference points of some sort, be they remembered instructions, landmarks or cardinal directions. The simplest form of

maps and clocks, calendars and histories, grids and meridians, cardinal directions, images, memories, secondhand accounts, etc. The scope of the available world thus expands exponentially. The personal frame of reference of lived space is, it seems self-evident, always experienced in conjunction with that of intersubjectively constituted space.

But how do these different frames of reference converge—or fail to converge? How does our bodily sensed personal space relate to the public space; in other words, how do we situate our sensible lived spatiality with respect to abstract and objective space? To ask this question is also to ask how the body, the zero point of orientation--which is both centric *and* axial—situates and expands its connection to the world both near and far. In the case of Merleau-Ponty's anchoring, we saw how the body responded to a given set of sensory clues and thereby constituted a vertical level, or benchmark, for itself. We need to go further, now, and ask how these sensed dimensions of lived space (levels in pre-objective space) might link up with a wider framework, whether it be physically present beyond the horizon or constituted by more abstract and intersubjective conventions? How does lived space, with its bodily schema and axial orientations, link up with space that is conceptualized and communicated, rather than felt?

I propose to tackle this fairly complex question in several parts: First, by briefly revisiting the difference between subjective and objective space, so as to clarify our ordinary experience and understanding of them both separately and, eventually, related. Next I will explore the emergence of subjective and objective space in human development drawing on Piaget and Inhelder's psychological studies (this research complements the phenomenological discussion in Chapter 1). For Piaget, our representation of space evolves with our advancing mental development: our spatial cognition evolves to become more abstract and less based in bodily experience. Exploring the emergence of abstract spatial cognition is essential to this study, for to investigate the relation of bodily axes (immediate and subjective) to the three dimensions of objective space, we need to look at how the axes arise at all in our representation of space. Piaget and Inhelder show the gradual emergence of the abstract spatial axes of horizontality and verticality, and the Euclidean conception of space necessary for this. I then address the ground for a reconciliation of subjective and objective (that is, intersubjective) space with the help of Bernard Lonergan's invaluable analysis on reference frames and the nature of space and time. Lonergan discusses the experience of space and time as both the limited fragment of each that is available to individual experience and its continuation as an ordered totality beyond our temporal and spatial horizons. His exploration of how one's personal, concrete experience relates to the public and more abstract benchmarks helps illuminate the way we

wayfinding, the most "egocentric" one, is a unidirectional linear path with markers where one turns left, right, or goes straight ahead. This mode of wayfinding is called a "strip map" since it is just a linear path with no other context that *must be followed exactly*. Someone using this simple form of wayfinding has trouble if he goes off the path; he cannot calculate a new correction and can only find his way back if he reverses the sequence perfectly. Egocentric wayfinding is chiefly used for recognizing places one has been before (scene recognition), also for restoring one's sense of orientation after it is disturbed and updating one's position after moving around.

The allocentric mode uses landmarks with a rough idea of their angles and distances; using it, one can easily take a different path, even one not seen before. It reflects a higher level of spatial cognition, since it implies a map or understanding of the surroundings beyond the immediate, sensory evidence of the strip-map. Using allocentric orientation, I would have no trouble finding my way if I was dropped into a new location or asked to return home by the same or different route. If the egocentric, linear map is more like a string of views unfolding in time, or operations to be performed in sequence, allocentric orientation implies a wider awareness of the environment. It involves transcending one's immediate sense perceptions and situating the latter in context.

situate our private experience within the whole.<sup>36</sup> What will emerge from Piaget and Lonergan is the importance of reference frames, for organizing space and for bridging subjective and objective (intersubjective) space.

Some specific questions about the interplay between personal and public reference frames will be addressed at this point. Namely, how are they reconciled and what do they share? (All spatial reference frames are constituted around the three axes, for instance.) Then, what, if any, is the ultimate reference frame for all of us? How are the geometrical horizontal and vertical grounded in sensible reality? The notion of an original and inescapable reference frame, based on Husserl's idea of the unmoving earth (mentioned in Chapter One), is relevant to some of these questions. Husserl suggests therein that our phenomenological experience of the earth shapes not only our spatiality, it creates a bond between earth and embodied subject, and also a bond linking all humanity. Thus we have a basis for the significance and enduring meaning of the dimensions as grounded in a uniquely human spatiality. Finally, having examined the relation of the individual to the whole, I will return to the significance of orientation on a personal level. What is the importance of the individual experience within this larger whole? For surely it amounts to far more than merely coordinating oneself with some public and/or objective order. The experience of being oriented or disoriented, familiar or disconnected, goes to the core of our emotional life if not our very sense of self. Reconciling my personal egocentric spatiality with the larger whole is not just falling in line with a more valid, public order. It contributes to a sense of belonging, familiarity, and being at home. I will suggest that a sense of one's own trajectory and position in a wider scope of time and space is important for the self-conscious determination of one's own self and narrative, by reinforcing the very "intentional threads" (as Merleau-Ponty called them) that bind us perpetually to the world—a world for which our own constituting powers are prerequisite.

## 2.3.1 Lived Space and Objective Space as Commonly Understood

To speak of space as being objective or subjective (also termed lived space, peripersonal space, or pre-objective space) is to already recognize that we operate with different conceptions of space. Objective space is space conceived independently of any subjective point of view, thus presumed to remain the same from any angle or none. Lived space, on the other hand, is the way we as incarnated individual subjects perceive it: namely, as perspectival, organized around my own body in directions of left and right, up and down, etc. Lived space is sensible and immediately given, through various sense modes, to by a sentient and mobile subject. It has certain traits: first, it is non-uniform, or anisotropic, such that its three directions are dissimilar from each other (and asymmetric along their own axes, in two of the three). Lived space is not homogeneous but varied in character: regions vary, individual places stand out, geographical elements serve to mark center and periphery and gives it character and heterogeneity. It is perspectival and bounded by a horizon, thus it ends where my vision ends. Finally, lived space is never empty but replete with qualities that contribute to my sense of space: sounds, colors, temperatures, etc.

Alongside our original experience of lived space, we also grasp space as objective. Free of any observer, it cannot be

<sup>&</sup>lt;sup>36</sup> See Lonergan's chapter "The Description of Space and Time," *Insight: A Study of Human Understanding* (Toronto: University of Toronto Press, 1992).

experienced sensibly and has no privileged orientation point. It is a kind of underlying metric, the pure and empty extension in which things exist. Objective space has primary qualities only: namely extension and shape. It is isotropic, that is, the same in all directions: there is no difference between up and down, center or periphery. It is homogeneous insofar as it has no center or intrinsic differentiating value at any of its locations. Endless, boundless, and infinite, it is the "substratum of mathematical space."<sup>37</sup> It is also the space ruled by lines of latitude and longitude that underlies any reliable map. A map is "the paradigmatic representation of objective space," notes philosopher Jeff Malpas, for it depicts space devoid of any observer.<sup>38</sup> Indeed, a map is chiefly used to help me place my subjective view within a non-subjective framework.

The very emptiness and abstractness of objective space is at odds with our experience of lived space. There is a risk in assigning it ontological priority due to its calculability and objectivity, as we have seen earlier with Merleau-Ponty's stress on returning to pre-objective space. Ed Casey also warns against treating the space of the lifeworld as objective *in The Fate of Place*. For Casey and many others, the latter is associated with domination, sameness, supervision. Should space become nothing but "a sheer order of coexisting points" without any intrinsic qualities, then it will lose the ability to hold, situate, sustain, and gather.<sup>39</sup>

Whether lived space is the basis of objective space or vice versa is an issue we need not go into here. My aim is to explore their possible interrelation. For the ability to reconcile different spatial frameworks is, I suggest once again, essential to our ability to orient ourselves beyond the immediate sensible world.<sup>40</sup> While pre-objective space has its own virtues and emotional import, and while it is characterized by a close relation between the egocentric body and its immediate surrounds (see Chapter 1), the question of how we align our personal frame with the intersubjectively constituted space and time is a different one. It has to do with orientation at another level, such that one's concrete moment of space and time is grasped in relation to some wider domain. So let me once again refocus on the question of do we move beyond our private, egocentric experience to a more public and collective frame of reference. This brings us back to the three axes, and how they are translated from sensibly felt to spatial abstractions.

#### 2.3.2 The Geometric Axes as a Function of Spatial Cognition (Piaget)

To explore the relation of the bodily axes (immediate and subjective) to the three dimensions of objective space (conceptual), we need to look at how the axes arise at all in our representation of space. The abstract geometric axes belong to Euclidean space, not lived space. Yet it is common to tend to think of the vertical, horizontal, and depth in these abstract, Cartesian terms; that is, as ideal and infinite lines that extend indefinitely. These abstract axes of space are also found in the gridlines that seem to run through and order the world. For when we speak of "the vertical," we mean the vertical in general, running from the center of the earth to the stars. When we speak of "the horizontal," we mean

<sup>39</sup> Edward Casey, The Fate of Place: A Philosophical History (Berkeley: University of California Press, 1997), 183.

<sup>&</sup>lt;sup>37</sup> Ströker, 179.

<sup>&</sup>lt;sup>38</sup> Jeffrey Malpas, Place and Experience, A Philosophical Topography (Cambridge: Cambridge University Press, 1999), 60.

<sup>&</sup>lt;sup>40</sup> If egocentricity is transcended in pre-objective space by the body's own tendency towards *engrenage*, or gearing to its environment, the transition from subjective to intersubjectively constituted objective space is quite different; requiring different and more abstract spatial representations and extending (or altering?) one's personal, immediate orientation.

that abstract flat plane flowing over the whole surface of the earth, to which any body of water conforms. We also use these axes to order space: the cardinal directions, the lines of longitude and latitude are some conventional, public examples. Our human-built environment reflects the ease with which people have imposed the conceptual geometry of axes on the world. Thus the use of abstract axes in orientation and conceiving space seems to be one key way in which human spatial awareness and orientation differs from all other living beings. We rely on the abstract idea of the horizontal, vertical and depth in themselves, as the abstract, immaterial dimensions of "empty" space that underlies all material entities matter within it. Yet as much as they seem to be the very external structures of reality, the horizontal and vertical axes are not actually present in the child's representation of space, according to developmental psychologists Piaget and Inhelder. The latter's experiments indicate that very young children do not grasp the vertical and horizontal axes ordering space. Children are unable to represent or make use of either of these axes, despite visual cues and examples designed to elicit them. Instead, our human reliance on abstract horizontal and vertical axes is only adequate to the level of our cognitive spatial schemes, which themselves pass through various stages, from an initially sensorimotor phase to a more abstract one, according to Piaget.

This absence of the vertical and horizontal in the child's thinking is unexpected, for we clearly do encounter verticals in the world around us: anything that hangs or stands upright or falls serves to illustrate it. The horizontal is present in any body of water, large or miniature, and in the ground plane. Yet Piaget insists that the familiar notions of horizontal and vertical axes are not inferred empirically, from elements of the world or postures of the body. It is all too tempting, he notes, to think that our postural system is enough to "provide the coordinates of a ready-made co-ordinate space, with the organs of equilibrium with their only too-well-known semicircular canals solving the entire problem."<sup>41</sup> But he insists that the body's physiology is inadequate to explain the conception of a natural reference system of horizontals and verticals, or of three-dimensional, Euclidean space.<sup>42</sup> For a child to derive a more general schema of space, and relate his own body and viewpoint to a larger framework, he must "go outside the purely postural field and compare his own position with those of surrounding objects."<sup>43</sup> In other words, he must situate himself in something like objective space.

Certain conceptual acquisitions are prerequisite to successfully using abstract horizontal and vertical axes in representing space. First of all, one needs the ability to construct a straight line across empty space, and even this is cognitive achievement as we shall see. Then, Piaget argues, the ability to employ straight lines as horizontal and vertical axes, independent of any perceptual object, goes hand in hand with the representation of projective and Euclidean space. Both of these developments are linked to the dawning awareness, in the child, of having a perspectival point of view (i.e.. a standpoint from which a view, and the corresponding geometries, can be projected). This onset of perspectival

<sup>&</sup>lt;sup>41</sup> Piaget, 378.

<sup>&</sup>lt;sup>42</sup> See Piaget, 377-9. We do not conclude, he notes, that any child that breathes, digests and has a heartbeat has an idea of his own circulation and alimentary metabolism (ibid). Similarly, Piaget holds, activities like lying flat, parallel with the edge of the bed and the floor, or standing up parallel with the walls of the room" lead to nothing more than an "empirical awareness" of these individual postures (378).

<sup>&</sup>lt;sup>43</sup> Piaget, 378.

awareness is a major shift in the child's understanding, for it enables a coordination between individual (personal, lived, felt) frame of reference, always shifting and deictic, and the stable frame of reference known as objective space. Indeed, for Piaget the child lacks a sense of perspective and a representation of space in which all viewpoints can be reconciled, does not constitute an objective world and thus does not face the problem of reconciling his or her subjective framework to it. Like the solipsist, or animal, the child is naively egocentric, unaware of having any viewpoint at all.

We will explore this series of connected developments, step by step, to see how perspective is linked to the emergence of geometric spatial reference frames and how these are needed for the abstract horizontal and vertical axes. Let me first return, however, to the original assertion that children do not rely on such axes as part of what Piaget calls a "natural reference system."<sup>44</sup> How do very young children see space, if not in a Euclidean mode, and how do they handle the horizontal and vertical if not as linear, abstract axes?

### a) The Topological Stage: Non-metric, Perceptual, and without Lines

The horizontal and vertical axes are not conceptually available to young children, Piaget argued, but emerge over time as they move beyond ideas of space based on perception (i.e., "perceptual space" based on sensory experience and motor activity) and gradually develop the conceptual, logical tools to represent space abstractly (that is, as projective and Euclidean space). Such development occurs in four stages, beginning with the "sensorimotor" stage and culminating in the stage of abstract, logical reasoning, the "formal-operational" stage. Piaget theorized that these sequential stages were evident in the way children represented space and spatial relations, particularly in their drawings and how they handled various problems in applied geometry.<sup>45</sup> Geometry itself emerged, he thought, in a progression of increasingly abstract cognitive schemes built up gradually, via each person's interaction with the material world.

Initially, children describe space topologically, in terms of elementary relations drawn from their sensorimotor experience. These include proximity and separation, order, enclosure and openness, that is, states which the child can presumably relate to his/her own physical experiences and interactions. Topological space has a few striking traits: it is non-metric; it lacks a projective viewpoint, and it thus "completely egocentric." Non-metric means that the space does not conserve dimensions—in marked contrast to Euclidean space, which does. In other words, topological space does not register or conserve proportions, distances, distinctions between straight or curved lines, sizes of angles, parallel lines. The kind of relationships that matter in it instead are those listed above: order, enclosure, etc. These topological relations remain constant through contraction or expansion of the figures involved (what matters in my coffee cup is that it has a hole in it (the handle), not its proportions or dimensions.

Second, and relatedly, it lacks a projective viewpoint from which spatial figures are seen: they are conceived in

<sup>44</sup> Piaget, 377.

<sup>&</sup>lt;sup>45</sup> Wittman, Barbara, "Jean Piaget and the Child's Spontaneous Geometry", Max Planck Institute for the History of Science Publication (https://www.mpiwg-berlin.mpg.de/sites/default/files/migrated/fs11\_wittmann\_en\_web.pdf). According to Wittman, "the child's drawing can indeed be operationalized as a reconstruction apparatus of the psychogenesis of space." She adds that "Euclid's elements and the topological properties of shapes have their origin neither in the world nor in the history of sciences, but in cognitive schemes that every man and woman builds up in reflexive interaction with objects."

isolation, described in terms of "internal relations of isolated objects."<sup>46</sup> Contrast this to more comprehensive spatial systems where the relationships between objects are seen from a given point of view (projective space) or to linear axes (Euclidean space).<sup>47</sup>

Finally, the topological space of the young child is "purely perceptual" and "completely egocentric"; it is "both unaware of itself and incomplete"<sup>48</sup> It is incomplete because unconsciousness of one's viewpoint means taking it for absolute, and failing to perceive or account for distortions arising from it. The child is so firmly the center of its own world she or he cannot even conceive of such a thing as a viewpoint. (An understanding of one's own viewpoint, by contrast, brings self-awareness and a different kind of egocentricity, by which objects are put in relation to oneself.)

At this topological stage, a child lacks even the notion of a straight line that would structure empty space. Such lines are needed (but not sufficient) for conceiving of abstract axes of horizontal and vertical. The child's inability to distinguish on horizontal and vertical axes is evident in their drawings. Young children were unable to accurately depict or imagine scenes that depended on a framework of object-independent horizontal and vertical references. For instance, asked to predict the appearance of a vase of water when tilted, the youngest drew the water parallel to the (tilted) bottom, or clinging to a side, or gathered into a ball by the top—in short, they relied on topological relations internal to the vase. Even presented with an actual tilted vase, they could not draw the result, being unable to relate the water's surface to an independent horizontal axis.<sup>49</sup> Indeed, Piaget notes the absence of any notion of planes, much less a horizontal one.<sup>50</sup> Similarly, in drawings of landscapes, they drew chimneys perpendicular to slanted roofs, and trees perpendicular to the slopes of mountains, again relying on reference points internal to the objects. According to Piaget, the children did seem to know that some external "anchor" was needed, but could not identify it and so remained mired in the object's perceptual clues." Horizontal and vertical axes are thus still undiscovered." <sup>51</sup>

In short, the younger children could not relate distinct and separate elements through stable geometric relations that would consistently structure space itself, not having developed the "extensive and comprehensive relationships" needed for "bridging the empty space."<sup>52</sup> Consequently, argues Piaget, they were not able to resort to external, non-perceptible reference axes (the gravitational vertical and its perpendicular).

Seeing the proper alignment to horizontal and vertical relies on something more than perception, for the invisible structuring axes of the three dimensions are not given in sensible reality. They are conceptual achievements that enable

<sup>46</sup> Piaget, 153.

<sup>&</sup>lt;sup>47</sup> Clements writes, "To Piaget and Inhelder, the difference between topological and projective or Euclidean relations concerns the way in which different figures or objects are related to another. The former are internal to a particular figure; the latter involve relations between figure and subject (projective) or between figures themselves (Euclidean). Projective relations begin psychologically at the point when the figure is no longer viewed in isolation, but begins to be considered in relation to a 'point of view'" (Clements, 9).

<sup>48</sup> Piaget, 193.

<sup>&</sup>lt;sup>49</sup> Efforts to depict or predict the vertical were similarly skewed: given a drawing of a ship placed inside a bottle of water, they drew the mast not upright but perpendicular to the water, or aligned with a side of the bottle.

<sup>&</sup>lt;sup>50</sup> Asked to draw the mast of a toy ship floating in the jar of water, they not only fail to coordinate it with the horizontal plane of the water, the child not only "has not the faintest idea of a horizontal plane, but he does not even grasp the notion of planes at all" (382).

<sup>&</sup>lt;sup>51</sup> Piaget, 382

<sup>52</sup> Piaget, 392.

the representation of all objects in one consistent framework. This latter form of representation is found in Euclidean and projective space, which are systematically organized frameworks in which metric spatial relations are preserved. Piaget associates the development of projective and Euclidean space with the onset of the awareness of perspective, i.e. one's individual point of view. The first step in this development towards a stable spatial framework comes with the straight line, which is notable insofar as it accompanies, according to Piaget, awareness of one's own line of sight, and thus one's own perspective.

## b) Straight Line Projection and the Awareness of Perspective

For Piaget, the discovery of one's own point of view begins with the development of the ability to project a straight line through empty space. He shows this in his well-known tabletop experiment, where children were asked to arrange objects in a straight line across the table, at various distances from its edges.<sup>53</sup> The children could follow a line drawn for them, but when asked to generate one they resorted to wavy lines with objects placed very close together; the slightly older children tended follow the table's edges, (whether round or square); they were unable to "break away" from the "perceptual cues offered by the edge of the table." <sup>54</sup> Only when children discovered the process of "taking aim" to project a straight line--an operation which implied awareness of one's own line of sight—did they manage to connect the two points.<sup>55</sup>

The space of the child who has grasped his own viewpoint as such, as one of many, is still organized egocentrically, but it is a change from the topological, sensorimotor space where the child's egocentricity was so total it remained unaware of itself as such. This onset of awareness of one's own perspective is critical, for it implies a new projective understanding of space, in which things are relative to a viewpoint.<sup>56</sup> Awareness of one's viewpoint implies awareness of being one among many possible viewpoints; with the latter discovery the child begins to coordinate viewpoints and situate his own position as relative to them.<sup>57</sup> At this point the child has discovered the systematic spatial framework in which all spatial relations are situated, and in which they are also located. Henceforth all objects will be situated with respect to one's own position, grasped in terms of above/below, before/behind, left and right. Topological relations are reorganized as projective relationships.<sup>58</sup> Ultimately, this ability to link and coordinate different viewpoints (both real and imagined) enables the representation of a comprehensive spatial system, a field that is ordered and metrically stable in itself, object independent.<sup>59</sup> Such a system of reference is what will enable the child, ultimately, to conceive of horizontal

<sup>&</sup>lt;sup>53</sup> See "Construction of the Projective Straight Line" in The Child's Conception of Space, 156-71.

<sup>&</sup>lt;sup>54</sup> Piaget, 158-9, 161. The child might generate a right angled line, or a curved arc; and while he can make a straight line with his hand, he cannot arrange objects in a straight row.

<sup>&</sup>lt;sup>55</sup> This use of one's line of sight to "conjure up the image of a straight line" that is "independent of lines present in the background" implies an awareness of one's own viewpoint that is "far more difficult to come by than might at first be supposed"(165). For the perspectival nature of one's own vision is ever-present and unvarying, not evident by sensory cues. Before becoming aware that their viewpoint is subjective, children instead remain mired in what Piaget calls a "pseudo-constancy," unable to imagine or represent objects from other perspectives; instead, they "cling to the 'object in itself "(178).

<sup>&</sup>lt;sup>56</sup> Piaget, 190-1.

<sup>&</sup>lt;sup>57</sup> Piaget, 193.

<sup>&</sup>lt;sup>58</sup> Piaget, 192.

<sup>&</sup>lt;sup>59</sup> For Piaget, a reference frame orders empty space, regardless of the objects within it; it is unlimited. Space therein is conceived as object-independent; that is, as a homogeneous empty field that preserves its order and metric character

and vertical axes independently of any physical or visual cues, as axes structuring space independently of the objects changing their configurations within it.<sup>60</sup>

In short, the birth of self-awareness via perspective is indeed, much as with Husserl, the beginning of intersubjectively constituted objective space). It should be noted, too, that this onset of awareness of one's own point of view, of oneself at the center of projective space, also seems to be the key moment when one grasps oneself as the central locus of the converging axes of three-dimensional space. Topological relations (based on sensorimotor schema) begin to be organized via axial dimensions, and all axial directions are "coordinated" around myself as a central viewpoint.

#### c) Systematic Reference Frames of Euclidean and Projective Space

Let us recall that children were unable to correctly draw objects (surface of water in the vase, trees on mountains, chimneys on rooftops, floating ship's mast) as aligned with the horizontal and vertical axes in their drawings, even when looking directly at these objects in reality. This point bears reiterating: despite the clear suggestion of the horizontal and vertical as coordinate axes, evident in the external environment, children did not make use of these axes in representing space. This is because they were not yet even able to see space in terms of a systematic frame of reference, metric and homogeneous, for which the horizontal and vertical could serve as references, holds Piaget. In other words, without the representation of an ordered geometric space, there is no medium for the axes to exist as structuring elements.

Only after children were able to represent space systematically, via a "general coordination of all angles and parallels throughout the entire field of objects under consideration," were they able to discern the axes at work, i.e., in the "the physical constancy of the horizontal water level and the vertical plumb line."<sup>61</sup> Children at this stage of development logically and consistently realize that water is "permanently horizontal" and the plumb line "permanently vertical" in all situations, thus they have acquired the "axes of system of a natural system of reference provided by the physical world"<sup>62</sup>

regardless of any repositioning or change in the objects or positions it potentially or actually contains (376). Given reference points (axes, a zero point) order the entire spatial field, "coordinating the positions and intervals without limits" (377). The difference between projective and Euclidean reference frames is slight; having to do with relative sizes of things (as seen) versus positions and distances. Euclidean space coordinates all possible distances and positions. Projective space coordinates all possible viewpoints; the two reference frames they are fundamentally "cognate" and interdependent" (476). According to psychologists Clements and Battista, Piaget inferred that "children must construct systems of reference not from familiarity born of experience but rather, from operational linking and coordination of all possible viewpoints, each of which they are conscious. They conclude that such *global coordination of viewpoints is the basic prerequisite in constructing simple projective relations.* For although such relations are dependent upon a given viewpoint, nevertheless a single "point of view" cannot exist in an isolated fashion, but necessarily entails the construction of a complete system linking together all points of view." See D. Clements, & M. Battista, "Geometry and Spatial Reasoning," *Handbook of Research on Mathematics Teaching and Learning, ed. D. A. Grouws* (New York: Macmillan, Dec. 1992), 423.

<sup>&</sup>lt;sup>60</sup> An intangible frame of reference is prerequisite for all non-topological spatial relations, Piaget stresses. "It is at this point one realizes the indispensable role of a frame of reference. In order to recognize that the water is permanently horizontal and the masts or plumb-lines perfectly vertical, regardless of the tilt of the jar, it is necessary—even without drawing, but only by holding a ruler in line with the water or plumb-line...to establish a relationship between the water or the thread, the ruler, and a set of objects external to the jar. For otherwise there is nothing to show whether the water has or has not altered through being involved in the movement of the container (just as a relative movement cannot be understood without a frame of reference" (409).

<sup>61</sup> Piaget, 412.

<sup>62</sup> Piaget, 408-9.

Let me recapitulate here the essential points from Piaget regarding the emergence of abstract dimensional axes. First, the abstract vertical and horizontal depend upon the ability to represent space geometrically, for instance as a straight line, independently of perceptual cues. This shows that the mind's view of space is not the body's experience of space—even though there is a great deal of overlap and the latter allegedly (for Piaget) gives rise to the former.

The horizontal and vertical axes come to be understood as structuring axes, organizing physical space (and bridging empty space), only after children have evolved the concepts to understand space as a systematic frame of reference (i.e. projective or Euclidean space). We saw that the horizontal and vertical axes emerge as a child comes to understand perspective, i.e. his or her viewpoint as one of many, and concomitantly, with space as objective, in the sense of a shared spatial frameworks. "The horizontal-vertical axes are constructed at the same time perspectives are coordinated, for these latter also constitute overall systems linking together objects or patterns," Piaget concludes. Both perspective and horizontal/vertical imply a grasp of objective space, space in which objects are "considered as such, in their objective positions and displacements."<sup>63</sup> Space in each case is grasped as an ordered totality, a comprehensive system of reference. Curiously, Piaget continues, the child's organization of Euclidean space occurs at the same age as the "that other great comprehensive system" which coordinates "movement and speeds," known as time.<sup>64</sup>

# d) A "Natural Reference System"

Even though the horizontal and vertical axes depend on a relatively advanced and abstract representation of space, that is, Euclidean, it remains that these geometric axes are not purely mathematical or abstract; they are manifest as ordering the physical world. Recall here the original puzzle posed by Piaget, namely, that simply experiencing horizontals and verticals in the world (as water surfaces, as the direction of falling and standing) was not enough to give us the idea of the abstract axes. Yet it seems these experiences are not negligible either. The horizontal and vertical are neither purely geometric, nor merely observed empirically. So what can we say about them?

Piaget calls them the horizontal and vertical axes a "natural reference system" insofar as they belong to the "most stable, least mobile, framework of everyday experience."<sup>65</sup> As abstract axes, the horizontal and vertical are no longer tied to the subjective feeling of the three dimensions: as the sense of weight and balance, as one's own sense of right and left, as one's own front and back, or sense of existential depth all around. They are in the world, structuring the space of the world, independently of the subject. The word "natural" here points to a paradox, the pure horizontal and vertical axes are on the one hand ideal shapes, impossible without the mind's geometric understanding of space, yet these directions are meaningless without the situatedness of the embodied subject on earth (just as right and left are meaningless without embodiment, as we shall see in Chapter Six).<sup>66</sup> The phenomenological basis for the *natural* role of the horizontal and vertical and vertical is addressed in more detail below. Let me simply stress for now that the abstract axes are not merely the empirical vertical and horizontal (gravity and the ground plane), insofar as Piaget observed that they are only

<sup>63</sup> Piaget, 418.

<sup>64</sup> Piaget, 418.

<sup>65</sup> Piaget, 377.

<sup>&</sup>lt;sup>66</sup> The role of the earth as the ground of human existence (thus "natural") greatly inspired Husserl and then Merleau-Ponty, as I will discuss further below.

conceptually available within a Euclidean framework of space.

### 2.3.3 The Axes as Bodily, as Geometric, and as "Natural"

We have examined some of the unique traits of the physical axes of the body used in orienting behavior, stressing some commonalities between humans and non-human animals. We then attempted to see how these axes became features of the external world, and discovered that in addition to a bodily felt orientation to the vertical, the presence of abstract, conceptual axes that emerge only with higher order spatial cognition. The abstract sense of a horizontal and vertical are, however, also grounded in the physical world, a "natural reference system," and as such they help ground us individually and collectively in an intersubjectively shared spatial world.

A few crucial questions have arisen, regarding the interrelation of the bodily axes and those sensed as external to it. How does this abstract sense of the horizontal and vertical in Euclidean space relate to the felt dimensions of personal space as experienced by the body? How do the abstract axes of cartesian relate to the natural structure of the earth itself? What, if any, is the ultimate frame of reference for what we take to be objective (non-personal, i.e. intersubjective) space, motion and time? Finally, what is the importance of the individual experience within this larger whole; if it is not merely subsumed or coordinated with the "objective" order?

We perpetually keep track of our personal situation with a larger framework, to some degree, just as we keep track of our limbs and body in space. We are thus always aware of the body's axes in relation to the felt benchmarks of the world. While begins with the phenomenon of anchoring, as we have seen in chapter one, it does not end there. Precisely this extension of our concrete experience to a larger and more abstract order was explored by Bernard Lonergan in his comprehensive work, *Insight*. Lonergan envisions how we rely on reference frames—personal, public, and mathematical/physical (special)—to correlate our own personal experience of space and time to a wider, more publicly structured space and time. He describes how we relate our immediate experience of space to the whole expanse of it, and similarly for time, by taking our "fragment" of lived space and time as the "origin" of the wider totality, thus coordinating our personal reference frame with those of a larger scope.<sup>67</sup>

### 2.4 Reference Frames as Ordering Space and Time, according to Lonergan

Imagine the familiar experience of waking up in an unfamiliar place, perhaps after a long journey. Sometimes we have lost track of where we are, or why we are there. One's first thought, and often rather urgent, is where am I? what time is it? Or perhaps even, "what am I doing here, or how did I get here"? This question is not merely conceptual. It is felt emotionally, physically, even existentially. Lonergan explains such questions as the quest to situate my personal frame of reference, my bodily sense of space and my psychological time, with that of the larger public order.<sup>68</sup> Until I do so, I am disoriented: For being disoriented does not mean losing track not of one's own sense of time and space, but to not know how my time and space aligns with that of the world. Orientation, conversely, is knowing how your personal concrete reference frame (in space and time) fits with that of public space; it means aligning and situating personal

<sup>&</sup>lt;sup>67</sup> Lonergan, "The Description of Space and Time," Insight, (New York: Philosophical Library Inc., 1956).

<sup>68</sup> Lonergan, 144.

experience within intersubjective norms. Our experience itself demonstrates that these different reference frames are compatible and transposable.

Lonergan's explanation of space and time clarifies this extensibility and transposability of our personal reference frames. Our ordinary experiences have a particular, i.e. concrete duration in time (both the experience and the thing experienced), and the objects of my experience have a concrete extension in space.<sup>69</sup> Based on these experiences, we can imagine further ones; yet the limitations of both the human individual and human race as a whole puts limits to both our individual and shared experiences of duration and extension.<sup>70</sup> Yet our fragment of concrete, deictic experience serves as a reference point for the whole ordered totality which lies beyond. In other words, we can "take that fragment as origin," since beyond our own sensed experience of extension "there is further extension…" which formally relates to it, holds Lonergan.<sup>71</sup> We arrive at a description of Space thus as "the ordered totality of concrete extensions" and Time as the "ordered totality of concrete durations," such that Space and Time are seen as unified wholes, i.e. as contiguous and interrelated extension and duration, respectively.<sup>72</sup>

This core of actual, deictic experience is what renders space and time real, rather than imaginary. It serves as the origin and reference point for the totalities of Space and Time, for "it is only by a relational structure to given extensions or durations that totalities of extensions and durations can be concrete." This is why, Lonergan concludes, "frames of reference are essential to the notions of Space and Time."<sup>73</sup> They are the means by which we order space and time for ourselves, both our concrete extensions and durations and those which are formally related to them. Reference frames themselves are defined as "structures of relations employed to order totality of extensions and or durations."<sup>74</sup> Lonergan classifies these into three types: personal, public, and special (i.e., mathematical or mathematical-physical, thus potentially infinite, in number)f holds Lonergan. <sup>75</sup> Personal and public reference frames are concrete, that is, they order our particular, thus sensible, experiences of duration and extension. Mathematical and physical reference frames are abstract: they are constructed around a point that is selected (one that is real for a physical, imaginary for a mathematical frame of reference) and there are various possible ways of representing the space they organize (e.g., as Euclidean, hyperbolic, topological, projective, *etc.*).

<sup>&</sup>lt;sup>69</sup> A "concrete" expression for Lonergan is one that "contains a reference to a particular time and place" and which thus can vary with the speaker's location in place and time (141).

<sup>&</sup>lt;sup>70</sup> Lonergan, 142. Note also Lonergan's use of capitals to distinguish the ordered totalities from limited individual experiences.

<sup>&</sup>lt;sup>71</sup> Lonergan, 143.

<sup>&</sup>lt;sup>72</sup> Lonergan, 143.

<sup>&</sup>lt;sup>73</sup> Lonergan, 144. He continues "Within concrete space there is some extension that is correlative to experience; all other extension in space is related to that concrete extension; and in virtue of that relation all other extension is Space is concrete. Similarly, a notion of concrete Time is constructed around a nucleus of experienced duration. On the other hand, merely imaginary space and time contains no part that is correlative to actual experience" (143-4). <sup>74</sup> Lonergan, 144.

<sup>&</sup>lt;sup>75</sup> That is, there is an infinite number of possible origins and orientations for mathematical frames of reference (145). The latter order imagined space and time, while physical frameworks pertain to concrete space and time.

### 2.4.1 The Anthropological Reference Frames: Personal and Public

Our main interest here lies in the personal and public (or "anthropological") reference frames. The former orders a person's lived experience of space and time: my bodily and immediate surroundings, relating the things about me to my own here and now; it "moves when he moves, turns when he turns, and keeps its 'now' synchronized with his psychological present."<sup>76</sup> It organizes space into my own near and far, and into the three axes of my body: my right and my left, my fore and aft, above and below. Public reference frames, on the other hand, structure our commonly shared sense of Space and Time.<sup>77</sup> Public spatial references designate, for instance, political and cultural boundaries and landmarks, layouts of cities and networks of roads, the geographic coordinate system, etc. Through them, we "become familiar with the plans of buildings, the network of streets in which they move, the maps of their cities, countries, continents."<sup>78</sup> Public time is governed by clocks and calendars: for instance, the Greenwich meridian and the division of time zones.<sup>79</sup>

For Lonergan, all public reference frames are "relational schemes" that "knit together extensions and durations" for they create a commonly shared system that orders the whole of public space independently of any individual.<sup>80</sup> Unlike personal reference frames, they are stable and invariable. Public frames of reference are "employed to translate the here and now of the personal reference frame into generally intelligible locations and dates."<sup>81</sup> They are common to many, and thus provide a way to situate one's own fluctuating experience to standards that are the same for all, thus to an order that is unchanging and communicable.

That we perpetually rely on both a personal and a public reference frame is a fact most sharply revealed when we happen to lose track of their relation to each other. That is, when we are confused about where we are, or the time of day or week. As Lonergan wrote, "the difference between personal and public reference frames comes out clearly in the occurrence of such questions as, "Where am I? What time is it? What is the date? Everyone is always aware that he is here now. But further knowledge is required to correlate one's *here* with a place on a map and one's *now* with a reading of a clock or calendar." <sup>82</sup> By synchronizing and aligning these two reference frames simultaneously, we keep track of our place in some larger whole. (We do not exit subjective space to take up a position in objective space; rather we coordinate our personal frame of reference, our concrete extension and durations, with a wider intersubjectively ordered space whose configuration always encompasses our individual situation. What is true of one frame can be often

<sup>76</sup> Lonergan, 144.

<sup>77</sup> Lonergan, 144.

<sup>&</sup>lt;sup>78</sup> Lonergan, 144.

<sup>&</sup>lt;sup>79</sup> It is notable that public reference frames for space and time have grown more standardized and comprehensive in response to the increasing integration of the public sphere with demand for travel and trade . Yet historically there have been others: for instance church bells to mark the significant hours of the day; walls to mark national or local boundaries, festivals to mark harvest, rituals to commemorate events significant to a community, etc.

<sup>&</sup>lt;sup>80</sup> Lonergan, 144.

<sup>&</sup>lt;sup>81</sup> Lonergan, 144.

<sup>&</sup>lt;sup>82</sup> Lonergan, 144. Cognitive science indicates that the precise cognitions by which spatio-temporal frames of reference are compared, transposed, rotated, etc., are mostly unconscious, but they have been linked to the vestibular system.
transposed systematically to another, correspondences and commonalities found. My right is your left; your front is my back; the vertical direction is the same for all of us in relation to the ground plane, we are each a given distance x from the meridian and equator, each in a certain relation to the sun and stars, etc. Coordinating our personal frame of reference with other reference frames is how we transcend our limited perspective and egocentricity.

# 2.4.2 The Personal Reference Frame in Context

Regarding our present survey on orientation, what remains invaluable is the linking, as Lonergan explains it, of personal to public reference frames by grounding all of time and space in the concrete, first person experience of the body. The coordination of these frames and their dependence on the lived body, in all its concrete particularity, reiterates the existential import of orientation, as described by Merleau-Ponty. The lived body is the core element of orientation not because it is some abstract center of geometric space, but because it is the means by which we encounter the tangibles of the concrete present, the personal here and now, interpreting them in light of the more structured elements (still concrete) of public frames of reference for space and time.

This important act of relating oneself to one's surroundings – in time, place, and person— is the very essence of orientation. The scope of those surroundings runs from the immediate, as my personal space and subjective time—to the publicly shared and collectively created structures and institutions. We should not see the personal reference frame as opposed to the public one, as if the subjective experience was overshadowed and forgotten when set in relation to the public. Rather, they are forms of experience that are available to us, one individually and the other collectively. The whole task of orientation is to grasp their correlation. For to grasp my personal relation to a wider, grander space and time is not the "objectification" of subjective experience that Merleau-Ponty warned against, when he returned to the original lived experience of space available only to the embodied subject in pre-objective space. Orientation in the sense I am arguing for does not overlook my lived experience; rather, it expands it. To situate my personal experience within the public sphere is to expand my own boundaries, and transcend my own egocentric individuality. It is to accept that we are political and social beings, and that our personal experience is always given within a wider context. The background of a more public spatio-temporal framework extends my sense of *where* we are and *when* we live, such that we each can reflect on our experience not only personally, but also as a citizen of a state, a member of a culture, a participant in an era. A fuller meaning of my personal trajectory emerges when it is set against the horizon of a community, an aesthetic or ethical tradition, a history to come.

#### 2.5 Situating One's Self

We saw with Lonergan the importance of relating one's own concrete, deictic experience of space and time to the wider public framework. Through such a grasp one maintains a relation to a wider world. Yet there seems to be a deeper sense to it, too, having to do with my own projection of the world, my understanding of it, and my own ties to it.

65

Why are the questions about where I am, in time and place, and to others, so existential and seemingly linked to one's very self? Orientation in the sense I mean it involves far more than seeing how I fit into a larger whole, more than finding one's way around or optimizing my practical activity and proximity to things.<sup>83</sup> It is more than knowing where one is on a given map or the moment in time. It is an issue also of value, attachment, familiarity, inexplicable bonds formed at a pre-rational level; in short, it involves the ordered web of my intentional ties to the world and everything within it. My ever-present sense of my relation to things is tantamount to being in the world itself. Yet this global orientation rarely comes to the light of consciousness, and so it hardly seems to merit attention or comprise a basic disposition of our being. We might not even be aware of it--and its significance--were we not subject to moments of disorientation, on the one hand, and re-orientation, on the other.

#### 2.5.1 Self-orientation, Disorientation, Re-orientation in Proust

The opposite of orientation, at the simplest level, is disorientation, a sense of not knowing or mistaking one's alignment or place, being turned around or even lost. That we are normally oriented-to a greater or lesser degreebecomes most evident when we are not, that is, when we become disoriented. The latter occurs at different scales: for instance, being unable to locate a limb that has gone numb; upon awakening, being unsure of the direction of one's body relative to the room, not knowing what road to take at crossing. There is also a sense of being in a given place which has to do with our perpetual unconscious awareness of where we are, what city, in whose home, abroad, etc. If I travel or break my routine, I can even lose track of where I am, forgetting or mistaking my location, instead unconsciously expecting some other context, some other city, some other moment in my life.

One of the most evocative descriptions of such disorientation is found in the opening pages of Proust's Swann's Way. The transition from sleep to waking is the occasion for a radical disconnection from the "here and now," a disorientated state so unmoored from the protagonist's reality that he re-inhabits, successively, all the previous places where his life has unfolded. Semi-awake and not yet re-oriented, every shift in Marcel's body position conjures up a different past world, a configuration of people and places lost but not forgotten in his flesh. Sleep suspends the everpresent sense of our bearings maintained during consciousness, and thus reorienting oneself is the first task of someone newly wakened. Proust describes the transition, and the fitful shifts undergone by his protagonist, Marcel, and captures all too well both the fragility and profundity of orientation: "A sleeping man holds in a circle around him the sequences of the hours, the order of the years and worlds....he consults them instinctively as he wakes and reads in a second the point on the earth his occupies, the time that has elapsed before his waking, but their ranks can be mixed up, broken."84 Merely being conscious includes keeping track not only of one's own position, but also of the order of times and places,

<sup>&</sup>lt;sup>83</sup> On the other hand, we are not interested in orientation as a metaphor, meaning proclivity: orientation here will always have a spatial aspect and thus always be grounded in the lived body and its felt axes. <sup>84</sup> Marcel Proust, Swann's Way, trans. L. Davis (New York City: Penguin, 2002), 5.

which we arrange into an ordered, narrative whole around ourselves. Sleep relaxes my bonds to the here and now and fragments the order of space and time. Should one doze off, curled up in a particular "magic armchair", one might be sent, like Marcel, "traveling at top speed through time and space," hurtling through various scenes with "things, countries, years" revolving around him-a series of shifting scenes as insubstantial as those thrown by the magic lantern on his wall.85 Dizzy and disoriented upon waking, he struggles to recall his location. But the memory, or the sense of reorientation does not come immediately, and it is Proust's genius that he exploits this state of semi-wakeful confusion to explore the power of incarnated spatial memory and its role as the nucleus of a wider world. Lying in bed, and motionless, he lets his ambiguous bodily position motivate various fluctuating spatio-temporal hallucinations of all his former bedrooms and accompanying situations. One moment he is in the grandfather's house recalling the antique lamp, waiting for his mother who had not yet come to kiss him. Then the sense of new bodily position would "walls would slip in another direction" triggering another world with a different relative, late for dinner after habitual walk.<sup>86</sup> Veering through every position and corresponding bedroom and accompanying world until "good angel of certainty" brings everything around him to a "standstill" and restores the furniture, fireplace, and windows to their places.<sup>87</sup> Notice the clear link between his bodily position and the shifting sense of location in place and time, as if his sensed posture were the repository of the entire spatial configuration of past dwellings/families/situations. By his description, it seems if all of one's formerly lived worlds are lodged somewhere deep within one's body, and can occasionally be jarred loose by some sensible reminder, or bodily configuration, and then rise to the surface.

Marcel's curious reveries are not memories, in the literal sense, for if they were then he would be aware of his imaginings as separated from his present, as having a specific distance in time. Similarly for his grasp of space, he does not relate his reveries to his present situation; rather he substitutes them for it. His reveries seem like a game played with his own consciousness, exploring the very state of being oriented now to one reality and now to another, letting himself anchor now to one past world, now to another, aided by the ambiguity of darkness and partial wakefulness. Such instability can even affect his sense of identity, as one particularly deep sleep demonstrates:

"But it was enough if, in my own bed, my sleep was deep and allowed my mind to relax entirely; then it would let go of the place where I had fallen asleep and, when I woke in the middle of the night, since I did not know where I was, I did not even understand who I was; I had only, in its original simplicity, the sense of existence as it may quiver in the depths of an animal. But then the memory---not yet of the place where I was, but of several of those where I had lived and where I might have been, would come to me like help from on high to pull me out of the void from which I could not have got out of on my own.<sup>88</sup>

Bereft of his habitual bearing towards a given world, unable to anchor himself to a particular reality, Marcel has only

<sup>&</sup>lt;sup>85</sup> Proust, 5,6

<sup>&</sup>lt;sup>86</sup> Proust, 8.

<sup>&</sup>lt;sup>87</sup> Proust, 8.

<sup>&</sup>lt;sup>88</sup> Proust, 5.

the "original simplicity" of an animal, and no longer feels like himself. He lacks the sense of a given world, due to a slackening, as it were of those latent intentional threads (as Merleau-Ponty calls them), knit by habit between the body and the world. Disorientation only begins with directionality and the body, but it extends to all facets of the self. And thus spatial disorientation is not unrelated to dissociation and depersonalization.<sup>89</sup>

Proust's musings are a vivid testimony to how closely of bodily space is interwoven with its surroundings. He captures the latent and unconscious anticipation of a given world, in all its sense, that is, in all senses of sense, and their interrelations. Simply by virtue of being incarnated, we are always oriented, not only in terms of sensing the locations of things, but of sensing how they matter and how they affect us. As Kearney reminds with his call for a carnal hermeneutics, the lived body is the medium of sense in all of its interrelated meanings: orientation, sensibility, meaning. "It is my flesh which inserts me—body and soul—into the flesh of the world," he writes, emphasizing the reciprocity of meanings between self and others, self and world. If my body, with its axial spatiality, is how I am inserted into the world, it is perhaps also how the spatiality of the world inserts itself in me.<sup>90</sup> Casey also stresses intertwining of body and place, and memory, noting how "places ingress into bodies in enduring and powerful ways"<sup>91</sup> Bodies belong to places, insofar as they "enter, and are taken up, into places" but places "belong to bodies" as well, as they are stored in the body's remembered sensations and remembered maps, often operating together.<sup>92</sup>

This closeness of the body to the places it has inhabited, and its perpetual memory of them, is one more way in which orientation extends my sense of the world far beyond the immediate. Via my oriented and orienting body, and its memories, I grasp my place in the world, in both space and time, and I gradually expand my idea of the configuration of the world of which I am the center. The wider I can extend my "here and now" to include the context of past experience and future plans, past situations and future destinations, the more I have a sense of the depth of my world as a whole.

#### 2.6 Reference Frames Beyond the Personal

The individual's spatial reference frame is deeply personal, as we have seen in Proust. Yet it also belongs, by virtue of our living in an intersubjective world, to a wider and more public order. Thus one's individual fragment of space and time can be aligned with different public scales. In time, I track position across the daily passage of hours, the week, the season, the calendar year, a century; perhaps for some with a keen historical sense, it can even be integrated into the scope of history. One's sense of space extends from one's habitual shelter and immediate vicinity to one's entire neighborhood or the city, the local geography, and as far as one habitually travels. I do not, however, permanently sense the relative spatial positions of further flung elements like state or national boundaries, meridians, locations of distant

<sup>&</sup>lt;sup>89</sup> In this sense, disorientation is akin to what psychology calls "disassociation" or depersonalization: feeling disconnected from one's body, a sense that the world is unreal, like a movie; lapsed or disjointed memories, feeling detached from one's own life and feelings, etc.

<sup>&</sup>lt;sup>90</sup> Kearney, "The Wager of Carnal Hermeneutics," 34.

<sup>&</sup>lt;sup>91</sup> Casey, Getting Back Into Place, 103.

<sup>92</sup> Casey, Getting Back Into Place, 102.

cities once visited or inhabited. We seem to calculate where they are in relation to us, rather than sense it. There are exceptional moments, to be sure, where one might take in a vast scope of space: flying over a familiar country in a plane, navigating with the aid of the stars, looking back over a long pilgrimage, or an astronaut getting a first view of the earth. Such extraordinary glimpses of vaster distances would extend the scope of our perceptible world. Yet these are still tangible experiences (or dreams, as in Proust). What of our relation to more abstract reference frames, which Lonergan called "special" reference frames of mathematics and mathematical physics?

### 2.6.1 The Extent of Orientation and its Limits

I suggested above, drawing on Piaget, that the axes of objective space have a double aspects: they seem both intrinsically found in the physical world (as gravity and the ground plane), yet our use of them implies a certain developed framework of Euclidean space on our part, one not available to children or animals (as far as we know), as Piaget argued. These geometric axes are also indispensable for socially constituted standards for marking both time and space, i.e., grids and meridians, political boundaries, travel routes, time zones and GPS coordinates, and so on. Such benchmarks and configurations are more technological than natural; they are mathematically structured but also coordinated with indices in the material world.

How do these more abstract orders of space and time enter into our wider sense of orientation? Regarding the abstract frame of reference, we clearly use abstract geometry to order our world (increasingly shaped by technology) They influence large scale construction projects, such as high-rise buildings precisely aligned to the vertical, or crops laid out in impeccably straight rows with the help of global positioning system and its satellites. Yet it remains difficult to find one's orientation with respect to such abstractions, for they tend towards homogeneity and regularity that fails to meet memory's need for specificity. The more an expanse of space and time is shaped by mathematical criteria rather than sensible ones (and many places are a combination of both), the more difficulty we have finding our place within it.<sup>93</sup>How far does our concrete experience extend before fading into vague abstraction, and how do we relate, if at all, to these most abstract frames of reference? Is there any frame of reference beyond the personal and public, which grounds them both, some ultimate frame, as Newton and Kant hoped to find in absolute space?

# 2.6.2 The Abstract Reference Frames: Mathematical and Physical

This brings me to the issue of mathematically constructed reference frames and to that most objective representation of space and material world, that of physics. Lonergan classifies special reference frames as mathematical or physical, ordering imaginary or concrete space and time, respectively. Physics has a unique problem, notes Lonergan: as a science, it should consist of invariant expressions, yet it deals with motion in actual space and time and thus must

<sup>&</sup>lt;sup>93</sup> We might well ask how far does the vividness and clarity of our personal frame of reference, and my own orientation, extend into the increasingly distant and non-immediate space that I know to be connected to my actual place and time? This would seem to depend on many variables, but one might well turn to the Baroque period of architecture for some striking examples of space configured to project one's frame of reference to infinity.

always take into account the reference frames in which its laws are said to hold. A given motion will vary in its appearance and duration, depending on its frame of reference.<sup>94</sup> Despite various historical efforts, no single frame of reference or point can serve, from a scientific viewpoint, as the unmoving basis or reference for all others frames, and thus as a final absolute ground for motion and rest "in itself."<sup>95</sup> All reference frames are relative from the perspective of physics, Lonergan rightly emphasizes—and this despite the efforts of Newton and later Kant to establish absolute space as a fixed frame of reference. Objectivity is found not in some ultimate reference frames, suggests Lonergan, but in the proper discernment of which phenomena belong to concrete or abstract reference frames."<sup>96</sup> Yet there is more to be said about a reference frame that would be a phenomenological basis for all human life, though not absolute: namely, the earth itself, as Husserl suggested and as I will now explore.

# 2.6.3 An "Ultimate" Frame of Reference

With bodily and animal orientation, we introduced the axes of the body, which structure the personal reference frame. We then saw, with Piaget, some of the conceptual preconditions for situating one's personal experience within a more abstract representation of space. The axes were identified as products of higher level spatial thinking; yet also grounded as a natural reference system. With Lonergan the importance of extending the personal reference frame into a larger whole was introduced—and their compatibility more or less presupposed. Yet there seems more to this relation between body and world, that is, between the viscerally felt axes of pre-objective, lived space and the abstract vertical and horizontal axes brought to light by Piaget. How are they brought together, and why does it matter? How do we find commonality between the personal reference frame and the larger one of the public order, or of the natural world? In other words, is there some basic reference frame that grounds the others, such as Newton and Kant sought in absolute space)?

The ultimate reference frame may not exist from the viewpoint of physics (a post-Copernican world, stripped of centrality and absolute directions and motion); still, what holds for physics might not hold for the embodied human subject—as Husserl will suggest. In Chapter One I argued for a transcending of the purely egocentric subject that was neither wholly dependent on the other, but was rooted in oriented space by virtue of the body and body schema. For Husserl and Merleau-Ponty, the earth itself will serve as the basic frame of reference for motion. It will also prove crucial in bridging individual space and public space.

<sup>&</sup>lt;sup>94</sup> For instance, a given movement will vary according to the reference frame, appearing faster or slower, curved or straight. Lonergan describes how a penny dropped seems to move in a straight line viewed from the viewpoint of the person dropping it, a parabola relative to earth, different still with respect to the sun's axes (152-3).
<sup>95</sup> Aristotle's outer celestial sphere and Newton's absolute space and time were efforts at absolute frames of reference;

<sup>&</sup>lt;sup>95</sup> Aristotle's outer celestial sphere and Newton's absolute space and time were efforts at absolute frames of reference; Husserl's "Origins of the Spatiality of Nature" presents the earth in a similar light, though from a phenomenological and not scientific

<sup>&</sup>lt;sup>96</sup> Personal Interview, Dr. Patrick Byrne, September 4, 2020.

#### 2.7 The Earth as the Ark of All Humanity

The Modern era is marked by the acceptance that earth is not the center of universe, but rather an unmoored, free floating body (and more recently we have also learned that motion and time are relative to the frame of reference of the observer). On the other hand, our original experience of motion and rest is quite different from the Copernican view that understands the earth as one body among others, as Husserl argues in The Origin of the Spatiality of Nature (a manuscript from his Nachlass). We originally perceive the earth as an absolute ground, that by which all motion and rest (a mode of motion) are perceived, but itself subject to neither. This phenomenological experience of earth as an unmoving ground takes precedence over the objective view of the earth as a limited body among other bodies. "For all of us...the earth is the basis and not a body in the complete sense," he writes. <sup>97</sup> For no single person has a view of the earth as a whole, as a "globe-shaped body."98 Rather the idea of the earth as a whole comes from integrating one's own array of perceptual experiences along with the reports of others' experiences, by knowing that others have become personally acquainted with what lies beyond a given horizon, within a given national border, etc.<sup>99</sup> As a result, our perception of motion is determined by our enduring relation to the earth as a stable "basis-body" (just as a person on a moving vehicle sees all the interior objects as relatively unmoving). Moreover, the earth is the unique site of the history of the human race. We cannot say that our anthropological and psychological evolution "might just as well have happened on Venus or Mars."100 The earth is the primitive home of all humanity, the "ark of the world" serving as a common basis for motion but also a unified history: a single primitive history of which all relative histories (of a people, of an individual) are "episodes."<sup>101</sup> The earth's original role, as our primordial home and spatiotemporal frame, would persist even if future humans would colonize other planets or depart the earth for good, concludes Husserl. As the "original ark" for all humanity, the earth is a reference frame shared by the intersubjective "we" of all humanity, both collectively and individually. "The totality of the we, of human beings, or "animate beings" is in this sense earthly...this sense is rooted and has its orientation-center in me and in a narrower We living with one another."102 Orientation thus pertains to humanity as a whole, with the earth analogous to the pre-objective body insofar as it too is the nullpunkt of

<sup>97 &</sup>quot;Origins of the Spatiality of Nature," 226.

<sup>&</sup>lt;sup>98</sup> "Origin of the Spatiality of Nature," 222.
<sup>99</sup>My own limited experience implies a "territorial openness" that is extended by and reconciled with the explorations of others, claims Husserl. "The idea of the earth comes about as a synthetic unity in a manner analogous to the way in which the experiential fields of a single person are unified in continuous and combined experience. Except that, analogously, I appropriate to myself the reports of others, their descriptions and ascertainments, and frame all-inclusive ideas" (ibid., 222).

<sup>&</sup>lt;sup>100</sup> "Origins of the Spatiality of Nature," 230

<sup>&</sup>lt;sup>101</sup> "Origins of the Spatiality of Nature," 228, 230.
<sup>102</sup> "Origins of the Spatiality of Nature," 227.

all orientation and it too, like the solipsist's body, is exempt from both motion and rest.<sup>103</sup>

Yet for Husserl, this inseparable bond between humanity and the ark of the world is due to the fact that both the spatiality of nature and human historical memory depend utterly on the constituting ego. The "whole historicality" of humanity "belongs inseparably to the ego," and it "precedes all actual and possible beings." 104 The earth cannot be conceived in the absence of humanity, for "only on the basis of constitution is "everything conceivable concerning the constituted world to be determined."105 (It will fall to Merleau-Ponty to investigate what Husserl's "crazy paradox" (as he calls it) which places the transcendental ego logically prior to corporeality;<sup>106</sup> and nudge the Husserl's unpublished speculations towards an ontology of the flesh). Leaving these implications for Husserl's method aside, his essay's relevance here is twofold. First, it grounds the horizontal and vertical as "natural" axes that are inseparable from the earth--even while presupposing the higher level spatial representations belonging to objective space. If the earth appears originally to us as the ground of all motion and rest, itself unmoving, it follows that the vertical and horizontal axes are also given, phenomenologically, as stable and absolute directions.<sup>107</sup> Piaget was thus justified in calling the abstract horizontal and vertical axes a "natural" reference frame, and this is why, as we shall see later, they bear the capacity for a "natural symbolism."<sup>108</sup> Second, the essay points to a common human reference frame that moreover operates both at a collective level (all humanity) and an individual one, bridging both public and personal space. We are doubly oriented by the earth: as embodied individuals on the one hand, and as members of the intersubjective "we" of all humanity. Each dimension-vertical, horizontal, lateral-is thus sensed at the bodily level as well as collectively experienced in the external world. At the public scale, it grounds the natural symbolism of the dimensions, as in, for instance, the overarching relation to the sky and horizon (for this, see Chapter 5 on the vertical).

### 2.8 Conclusion

At the heart of this inquiry is the question of how embodied consciousness establishes ties to a spatial world beyond his or her own pre-objective personal space. To pose this question is to ask about the very nature of orientation itself. Orientation in the human world goes beyond the biological level, for the intellectual and spiritual faculties have their own imperatives. Unlike the animal, or the young child, we augment and supplement our sensibly driven orientation with conceptual and intersubjective, public knowledge: i.e., realizing that space continues beyond the horizon, knowing the cardinal directions, having words for right and left, being aware of national boundaries, relying on maps and compasses,

<sup>&</sup>lt;sup>103</sup> Of course we can intellectually opt for a different reference frame that takes the earth as one body among others, with all motion and direction as relative. A phenomenologist would insist that such physics deliberately disregards its own origins in the lifeworld.

<sup>&</sup>lt;sup>104</sup> "Origins of the Spatiality of Nature, "231.

<sup>&</sup>lt;sup>105</sup> "Origins of the Spatiality of Nature," 231.

<sup>&</sup>lt;sup>106</sup> Merleau-Ponty, "Course Notes," Husserl at the Limits of Phenomenology, 76.

<sup>&</sup>lt;sup>107</sup> Though this is never mentioned in the essay. Only with Merleau-Ponty does directional orientation become a recurring theme.

<sup>&</sup>lt;sup>108</sup> See Karsten Harries, "Representation and Re-Presentation," *The Ethical Function of Architecture*, (Boston: MIT Press, 1998).

clocks and calendars, etc. With such conceptual tools, we organize space and time, extending our reach beyond the immediate. We grasp our concrete fragments of space and time against a background of infinitely extended, and publicly shared, extensions and durations that comprises the whole of time and space. In the end, our personal and public frames of reference are inseparable from each other, as long as we live in a human, collectively constituted world.

Orientation requires us to coordinate impressions from impressions from within the body and from without; and it thus has both active and passive aspects, this very coordination implies a certain degree of self-awareness.<sup>109</sup> Because it is the linking of inner experience with the outer world, it pertains to both subjective and objective modes of experiencing space, and even calls this opposition into question.

For insofar as the embodied subject has an ability to sense and orient its internally felt bodily axes to those of the world, an ongoing relation is sustained between personal space and external space. We might say that in orientation, both objective and subjective space are commingled and reconciled. I am oriented when I can situate my immediate and egocentric spatial framework within a larger world, which for humans also includes intersubjectively established public space, the whole of the realm, the span of history. Such an orientation in the conceptual sphere is available neither to animals, nor to very young children. Euclidean space is a type of reference frame that emerges only with abstract thinking and the ability to use a conceptual coordinate system to organize a spatio-temporal framework. The vertical and horizontal axes configuring physical space (as the force of gravity and the perpendicular ground plane) are products of geometry, but they are also aligned with the physical element of the earth. The earth as a whole provides a basis for a stable and shared reference frame for all humanity, for the lifeworld itself. The earth, then, seems to be a primary factor in the coordination of the different reference frames of the body (personal frame, pre-objective experience) and of the intersubjective realm (public frame, objective experience). Grounded in the experience of the earth, the vertical and horizontal are conducive to a common symbolism and empathy; a shared reference for the public structures of space and time, and a basis-body for all humanity. The three dimensions, then, preserve their connotations and symbolic value by virtue of orienting the body, with its three axes, to its three-dimensionally structured environment. This holds at the collective, or public level, as well as for the personal, bodily experience. On the collective side, the vertical and horizontal form a natural language, shared by both living things and nonliving beings. They help structure the public frames of reference for space and time which depend on stable, natural markers. Yet the spatial axes have also been drawn into service of a more mathematised and technological world, wherein the order of public space and time is based on measured meridians, calendars, political boundaries, time zones, property lines and GPS coordinates.

<sup>&</sup>lt;sup>109</sup> To limit this study, I have not included the full variety of sensations felt inside one's body. Sensations under the skin and woven through muscle and viscera, include aches and pains, hunger and thirst, ingestion and excretion, sexual arousal, fatigue, heartbeat, breathing, etc. Nor have I sought to pinpoint where kinaesthetic sensations (balance and muscular tension, the rhythm of walking, etc.) are located. This role of these internal experiences in rendering the axes of the body palpable surely merits further study, in a future and more comprehensive work.

At the same time, orientation encompasses much more than a sense of one's relation with respect to the public order; which is only the starting point. Part unconscious, part conscious, it draws upon both objective and pre-objective modalities; it ultimately involves the body and the mind, sensibility and concepts, self and others. Often below our consciousness, being oriented to a given setting is a phenomenon so pervasive that we might not even be aware of it, were we not subject to moments of disorientation, on the one hand, and re-orientation, on the other. It relates not only to time and space, but to the sense of my experience as an integrated whole, my bearing within a given world, my sense of self, always entangled with the world. Being oriented is tantamount to being in the world itself. If there is, once again, "meaning and orientation at the most basic level of our carnal being," beginning with the sense of touch, as Kearney writes, then so too does the sense of touch inherent to flesh become cast further out. <sup>110</sup> It is reconfigured and dematerialized in the spatial order of the world itself, in patterns of movement, in familiar bedrooms, navigated routes, memories of cities, infinite axes linking earth and sky, left and right, spatial models of the world. As our waking moments can sometimes reveal, orientation is not just spatial alignment, it is my imbrication within a whole setting, in which meaning and sense are one.

<sup>&</sup>lt;sup>110</sup> Kearney, 26.

"The world is wholly inside and I am wholly outside myself" Merleau-Ponty<sup>1</sup>

### CHAPTER THREE: DEPTH

Depth is, in one sense, the "third dimension." It is conventionally measured, after height and width. In this sense, depth makes surface into solid, image into material thing, map into model. Depth is thus the hallmark of threedimensional material reality. For anything that exists in the material world has three dimensions—unlike images and ideas. Yet we should not confuse depth with materiality. It has no weight, color, or tactility in itself. Yet we perceive depth all around us, and we move forward into it. What then is depth, and how do we analyze it? Is it formal or sensible, and if the latter, is it visual, spatial, tactile—or all of these?

Prior to taking up the philosophical treatment of depth, let us pause to consider the ordinary experience of it. I see depth in a pool whose waters grow ever bluer under a glimmering surface, I feel it engulf me when I dive deep within. I sense it in a forest with trees layered near and far, with distant clearings beckoning. Wandering through winding streets, I am drawn forward into it, engulfed by sounds that echo or resonate. And I judge the depth of things around me: the distance to that nearby door, the window beyond, a person coming towards me, the horizon. And since our vision and motion are coordinated in determining, more or less, which way counts as *forward* for us, depth is associated with the anterior/posterior axis of the body. Depth is always unfolding before us, wherever we move or direct our eyes.

Depth also has to do with vision, motion, and being situated. It is akin to the sense of space itself. It has to do with distance, but not the distance between two objects; rather, depth is always the distance between myself and other things or places with respect to me. It implies a space beyond, one that I might attain or inhabit, either visually or actually. It is more evident when we move and things move around us, in parallax (the apparent motion of things nearer being greater than those further). As we shall see below, depth involves perpetually recalibrating one's relation to the things one sees and senses all around. It thus only ever appears to an embodied being situated in, and moving about, some particular place or landscape. Depth is the "possibility of a subject involved in the world" for Merleau-Ponty.<sup>2</sup>

So is depth axial, associated with motion and frontality? Or is it the medium in which this motion occurs, encompassing me on all sides? I will situate this question within a larger context, namely, different ways depth has been described in the history of philosophy.

### 3.1 Part I: Depth as a Philosophical Question

In what follows, I will review two philosophical approaches to depth, the modern and the phenomenological, respectively. The two schools give very different accounts--as we know from Merleau-Ponty's critiques of Berkeley and Descartes. The modern view of depth tries to explain our visual apprehension of the spatial world; it presumes a division between mind and body, as well as between perceiver and perceived. The phenomenological account, on the other hand,

<sup>&</sup>lt;sup>1</sup> PhP, 474.

<sup>&</sup>lt;sup>2</sup> PhP, 311.

associates depth with the embodied consciousness, itself perpetually motivated and mobile, and situated among things of the world.-These two ways of conceiving depth reflect a larger issue of the subject's interaction with the world. For if depth was originally, for modern thinkers, a question of how consciousness represents the things around it, it becomes, in the hands of phenomenologists, a question of how thoroughly the subject is ontologically intertwined with its surroundings by virtue of being embodied.

Each of these two philosophical traditions approached depth with a certain set of assumptions that led to a coherent and important description of the phenomenon. I would like to suggest that modern philosophy's focus on optics and geometry led to more *axial* and *visual* model of depth, whereas the phenomenological inclusion of the lived body led to depth as a *medium*, that is, depth as the all-encompassing sense of space prior to dimensionality. Finally, drawing upon early phenomenological theories regarding the importance of one's activities and intentions in the constitution of space, I suggest that whether depth is experienced as axial or all-encompassing might also depend on the activity of the subject. Finally, in the second part of the chapter, each of these approaches to depth is illustrated with concrete examples: compare the experience of the image and that of the landscape.

#### 3.1.1 Depth in Modern Thought

The original problem of depth, for the modern thinkers like Berkeley and Descartes, was to explain how three dimensionality could arise at all within the sense of vision, dependent upon flat images on each eye. At issue too is the very link between mental and physical: how can a spatially extended world appear to a non-extended mind?

Descartes and Berkeley were two key participants in this discussion, representing the nativists versus the empiricists, respectively. Nativists claimed that innate abilities allow us to see depth immediately and directly, while empiricists argue it is learned by associating visual impressions with tactile ones, that is, through experience. For Descartes, then, depth is grasped immediately, via a kind of unconscious mental calculation of the angle formed between our two lines of sight (one for each eye) and the object of focus.<sup>3</sup> This judging of depth occurs without reflection, via a kind of implicit reckoning.

Berkeley rejected Descartes' explanation, arguing that we do not perceive any angles and lines when we see in depth, and thus could not use any such means to perceive the distance to things.<sup>4</sup> He explained it instead as a form of association between visual and tactile ideas (ideas being the only reality, in his empiricism idealism). Moreover, depth itself is invisible; it is the viewer's perception of the distance to an isolated thing.<sup>5</sup> Distance from a viewer to a thing is just a line, one end of which lies in the eye and the other end in the thing; I as viewer cannot see this imaginary line, since it is a mere point on the retina.) So if this line is invisible, being just a point, how is this impression of depth

<sup>&</sup>lt;sup>3</sup> By way of illustration, he proposed we think of a blind person holding out two long sticks to touch an object, and judging the depth of objects by the angle of the sticks. This differs from stereopsis since it does not rely on the comparison of two separate and independent images, with depth arising from the slight differences in those images. <sup>4</sup> Richard A. Brook, *Berkeley's Philosophy of Science* (The Hague, Martinus Nijhoff, 1973), 38.

<sup>&</sup>lt;sup>5</sup> Ian P Howard and Brian J. Rogers, *Perceiving in Depth*, Vol 1: Depth perception, (Oxford: Oxford University Press, 2002), 427.

conveyed?<sup>6</sup> Berkeley explains depth as the association of ideas, of visual ideas with tactile ones.<sup>7</sup> By moving towards things we see, we learn to associate accompanying data or sensations within our bodies which give us a sense of distance, i.e., how far we have to walk to them.<sup>8</sup> Thus the apparent spatiality of the world comes from associating visual ideas with tactile ones. Touch and vision are heterogenous senses, associated through experience. (It should be noted here that Berkeley rejected the idea of absolute space, viewing it as an abstract general idea described only in negative terms and needed by Newton to explain absolute motion.<sup>9</sup>)

A few assumptions about depth are common to both philosophers--and relevant to the subsequent critique and revision of depth undertaken by phenomenologists. First, both philosophers see depth as distance to a thing, and depth perception as a mere mechanism for measuring it.<sup>10</sup> Both see this depth *qua* distance as primarily a visual phenomenon. Visual ideas are supplemented by mathematical deduction, for Descartes (the rationalist) and by ideas of tactile sense impressions, for Berkeley (the idealist). Both assume a distinction between mind and matter: matter is a separate substance, for Descartes, or non-extant and dependent on mind, for Berkeley. Vision and touch are thus separated ontologically: distance has to do with physicality and extension, while vision is taken as a mental phenomenon occurring within consciousness. For Descartes, extension and mind are separate, linked by calculations (mental, implicit in the geometry of vision). For Berkeley there is but one realm, ideas; there are however tactile and visible ideas linked by association.

Regarding the axes of the body and orientation, since depth as defined as the perceived distance to a thing seen, it is therefore not only visual and linear, it is associated with the forward axis of the body. As distance, it is the straight line or axis from viewer to object. As a conundrum of visual perception, it is linked to vision more than spatiality or tactility. (Motion is involved chiefly as a means of measuring this axial distance). And since one's line of vision is always directed "forward" in relation to us—indeed, vision coordinates with motion to make up " forwardness"—depth became associated with the frontal axis.

Finally, depicting depth as distance contributes to objectifying it. Depth perception is a given viewpoint on an objective, that is, measurable reality. The line of distance from myself to a thing, invisible for Berkeley, is quite clear to

<sup>&</sup>lt;sup>6</sup> In his *Essay towards a New Theory of Vision* (Dublin, 1709), Berkeley writes "it is plain that distance is in its own nature imperceptible, and yet it is perceived by sight. So it must be brought into view by means of some other idea that is itself immediately perceived in the act of vision" (§11). Hereafter cited as NTV.

<sup>&</sup>lt;sup>7</sup> These sensations included not only visual data but also "muscular sensations of convergence and, at near distances, on visual blur and eye strain arising from accommodation." Boring, quoted by Ian Howard in *Perceiving in Depth, Vol. 3: Other Mechanisms of Depth Perception* (p.5).

<sup>&</sup>lt;sup>8</sup> "By saying I see that thing at a distance', you will agree with me that what you see only suggests to your understanding that after having gone a certain distance (to be measured by the motion of your body, which is perceivable by touch) you will come to perceive such-and-such tangible ideas that have usually been connected with such-and-such visible ideas" (NTV, §45)

<sup>&</sup>lt;sup>9</sup> Brook, 127. For Berkeley by contrast, our idea of "pure space" comes from the sense of our limbs moving freely on all sides; it is thus closely tied to the perceiving body, holds Brook (128). Berkeley thus does not really deserve to be cast as the representative thinker of objective space--an impression one might get from Merleau-Ponty's critique.

<sup>&</sup>lt;sup>10</sup> An ambiguity is present, various philosophers have noted, in Berkeley's notion of distance (Brook, 39). If distance is defined as a "phenomenal sense of 'outness' or 'spatiality'" belonging to vision as such, then it is self-evident that we do not see distance by geometry; and it is this sense which he seems to rely on in his arguments. But if distance is defined as a "metric concept", the measure from observer to the thing, then it seems to assume the existence of a real space in which the observer and objects are already situated, which is the very view Berkeley aimed to refute (Brook, 52).

anyone viewing the from a different angle, as Merleau-Ponty noted: "What makes depth invisible for me is precisely what makes it visible for the spectator as breadth: the juxtaposition of simultaneous points in one direction which is that of my gaze."<sup>11</sup> Countering this objectification lies at the heart of Merleau-Ponty's far-reaching reconsideration of depth. He begins with precisely the opposite notion of depth: as the hallmark of pre-objective space.

### 3.1.2 Phenomenology's Critique of Modern Depth

Phenomenologists, led by Husserl and Merleau-Ponty, would thoroughly revise the modern notion of depth. If the modern approach to depth is epitomized by the optical interrelation to a given object, and thus primarily visual and geometric, depth treated by phenomenology involves the whole body as the center of experience, motion, and orientation. In the former, we recognize depth as the third dimension after height and breadth, the invisible axis that consists in distance to a given thing, what Merleau-Ponty called a "juxtaposition of points" that I am "simply badly placed" to see.<sup>12</sup> In the latter, the phenomenological view, depth is much more than what is merely visible. The question is no longer the distance to this or that optically perceived object, i.e. a single viewpoint and single object, but rather how we exist, moving and perceiving, among the plethora of things in the world. Of depth in this fuller, existential sense, Merleau-Ponty writes,

"More directly than the other dimensions of space, depth forces us to reject the preconceived notion of the world and rediscover the primordial experience from which it springs; it is, so to speak, the most existential' of all dimensions because (and here Berkeley's argument is right) it is not impressed upon the object itself, it quite clearly belongs to the perspective and not to things...it announces a certain indissoluble link between things and myself by which I am placed in front of them..."<sup>13</sup>

Thus phenomenology returns the embodied subject to the center of the experience of depth. For Merleau-Ponty, and Husserl before him, depth is experienced by a conscious embodied subject; it is linked to motivation and movement in space and time, inseparable from the wider spatial horizon, tied to a perspective not exchangeable with any other.

Merleau-Ponty seeks to rescue depth from the objectification it had undergone in the hands of modern philosophers, like Berkeley and Descartes (his favored targets), who treated it as a mere gauging of distance. In the *Phenomenology of Perception*, he considers Berkeley as representative of the idealist tradition that objectified depth, conflating it depth with breadth. Berkeley had omitted the experience of the subject, treating depth as invisible; for him it was interchangeable with breadth since he took it to be mere measure, i.e. a juxtaposition of points. The link between vision and touch was merely associational, with Berkeley. Fifteen years later, Merleau-Ponty takes Descartes to task in "Eye and Mind" for similarly objectifying depth. Descartes had treated the eye as a mechanism, with depth a mere axial distance to be tacitly calculated. Ultimately, modern philosophy's approach to depth neglected the embodied subject first by treating depth perception as a physio-mechanical process, and second by separating vision and touch, mind and body.

a) Physiological Process vs Motivated Act

Merleau-Ponty set out to counter this objectifying psychology that misleadingly treated experience as an "object of

<sup>&</sup>lt;sup>11</sup> PhP, 297.

<sup>&</sup>lt;sup>12</sup> PhP, 297.

<sup>&</sup>lt;sup>13</sup> PhP, 298.

scientific investigation to be brought under a set of laws.<sup>214</sup> Again, the early investigations of depth perception had aimed to decipher the objective, physio-mechanical processes, and automatic associations, underlying the phenomenon. The role of human consciousness and its motivations were not factored in, and such an approach remained "unaware" of the subject of perception, according to Merleau-Ponty.<sup>15</sup> Treating experience as a mere "collection of reflexes" cannot capture the experience of "being in the world," which is irreducible to a "third person process.<sup>216</sup> For Merleau-Ponty the mechanics and physiology of vision do not fully describe or explain depth--not even when our recent understanding of stereoscopy is taken into account--for "an experience can never bear the relation to certain factual conditions that it would bear to its cause.<sup>217</sup> Quite simply, the mechanics of depth do not "cause" our seeing in depth; rather, our seeing in depth already 'presupposes an orientation towards the object placed at a distance.<sup>218</sup> We must not try to grasp depth ('apparent size and convergence'') from without, objectively, but "as we grasp them from within"; that is, how we live it, assume it, and 'discover its immanent significance.<sup>219</sup> In other words, depth is never free of our own temporality, location, and motivation. Seeing in depth is a motivated act, which means it "has its origin in certain given facts, not in so far as these facts by themselves have the physical power to bring it about, but in that they provide reasons for undertaking it.<sup>220</sup> Physical causality is one aspect of how depth works, and necessary to full understanding, but it is not what the Greeks called the '*arche*' of depth, i.e., its origin and first principle.

# b) Depth and Unity

Where the moderns saw separate faculties or substances, Merleau-Ponty saw reciprocity and unity. Descartes, by making mind and body substantially distinct, enabled us to look on our bodies from without, as puppets: "The Cartesian does not see himself in the mirror; he sees a puppet, an 'outside,' a sign to be interpreted."<sup>21</sup> This puppet experiences space and depth only objectively, since the mind looks on, from without, deciphering signals from a body submersed in space. Hence for the Cartesian, depth is "either nothing, or else it is my participation in a Being without restriction, first and foremost a participation in the being of space beyond every particular point of view," writes Merleau-Ponty.<sup>22</sup> That is, space is homogeneous and available to anyone anywhere, just as God might see it, lacking in depth or orientedness. The Cartesian subject lacks precisely the existential localization in space that is depth. Depth is thus reduced to visuals, to form and line, since these are comprehensible to the mind; this kind of depth is hardly distinguishable from depth depicted in a perspectival drawing, which is "only an artifice that puts before our eyes a projection similar to the one things themselves in ordinary perception would and do inscribe in our eyes."<sup>23</sup> Reuniting

- <sup>15</sup> PhP, 241.
- <sup>16</sup> PhP, 92.
- <sup>17</sup> PhP, 301. <sup>18</sup> PhP, 302.
- <sup>19</sup> PhP, 302.
- <sup>20</sup> PhP, 302.
- <sup>21</sup> EM, 170.
- <sup>22</sup> EM, 173.

<sup>&</sup>lt;sup>14</sup> PhP, 108.

<sup>&</sup>lt;sup>23</sup> EM, 172. Merleau-Ponty describes the Cartesian view of a picture as "a flat thing contriving to give us what we would see in the presence of "diversely positioned" things, by offering sufficient diacritical signs, through height and width, of the missing dimension" (ibid.).

what Descartes sundered, Merleau-Ponty writes: "we are the compound of soul and body," and "the body is no longer the means of vision and touch, but their depository."<sup>24</sup> Merleau-Ponty will, by contrast, place the embodied subject back into the world of space: anchored, oriented, composed of the same stuff of the world itself.

In the sensory realm, too, Merleau-Ponty will reunite what had been separated by conceptual analysis. Berkeley had taken vision and touch as fundamentally separate, related by association to create a sense of depth. For Merleau-Ponty, by contrast, all the senses are unified in directly apprehending the world in pre-objective experience, united by the body schema. Vision is intertwined with touch, for to see a thing is to "already have and to hold it, in some way."<sup>25</sup> The senses do not need to be unified, for their unity is already presupposed in the body as such. Merleau-Ponty writes, "I do not translate the 'data of touch' into the language of seeing' or vice versa—I do not bring together one by one the parts of my body; this translation and this unification are performed once and for all within me: they are my body, itself." <sup>26</sup> Comparable to a work of art for Merleau-Ponty, the body has its own singular coherence, a certain expressive "style" that resonates in every sensation, movement and act.

For Merleau-Ponty, the senses are not separated from each other, the body is not separate from the mind, the living being is not separated from space. Lived space is our primary mode of being, from which objective space is only an abstraction. Depth is the mode in which we experience lived space, pre-objective space. It "immediately reveals the link between the subject and space."<sup>27</sup> In contrast to the modern philosophers, he took depth not as visual or axial, but as the all-encompassing sense of space prior to dimensionality and the hallmark of lived space.

# c) Merleau-Ponty's Redefinition of Depth

For Merleau-Ponty depth is not a third dimension derived from the other two, but the first; it is "a global 'locality' in which everything is in the same place at the same time, a locality from which height, width, and depth are abstracted."<sup>28</sup> It is "more of a medium than an axis or line" and it is "not reducible to any of the triaxial Cartesian dimensions."<sup>29</sup> In this more phenomenological sense, depth is less of an axis and more of an all-encompassing volume. It has to do not only with vision but also motion, for it is more evident when we move and things move around us, in parallax (the apparent motion of things nearer being greater than those further). Such depth involves perpetually recalibrating one's relation to the things one sees and senses all around. It thus only ever appears to an embodied being situated in, and moving about, some particular place or landscape. Depth is the "possibility of a subject involved in the world."<sup>30</sup>

Depth in this sense is a medium all around me that is sensed by the whole body, not an axial and frontal view presented to the eye. In primordial depth, things are near and far, visible and invisible, to a subject immersed in a particular point in time and space. My experience of pre-objective cannot be transposed elsewhere or transparently

- <sup>26</sup> PhP, 173.
- <sup>27</sup> PhP, 311.
- <sup>28</sup> EM, 13.
- <sup>29</sup> PhP, 266.
- <sup>30</sup> PhP, 311.

<sup>&</sup>lt;sup>24</sup> EM, 178.

<sup>&</sup>lt;sup>25</sup> PhP, 308.

communicated to another; it is existential, for it involves the full body as unity of mind and matter, sense and meaning; a parcel of flesh that is motivated in its aims and expression, anchored to its optimal levels, oriented to its world.

If depth is originally a question of how consciousness *represents* the things surrounding it, it becomes, in the hands of phenomenologists, a question of how it is ontologically intertwined with its surroundings by virtue of being embodied. From the phenomenological angle, depth is our pre-objective experience of space, the volumetric fullness of space itself prior to being conceptually analyzed as three dimensions. In contrast to visual depth—the line between myself and a distant thing—there is with more beyond the surface with lived, primordial depth: there is interiority and hiddenness. Places and things contain other places and things, since depth is "dimension in which things or elements of things envelop each other."<sup>31</sup>

#### 3.1.3 Phenomenological Depth: Aspects, Movement, and the Invisible

In contrast to the modern philosophers, Merleau-Ponty characterized depth not as visual or axial, but as the allencompassing sense of space as a medium. Such depth is "the thickness of a medium devoid of any thing."<sup>32</sup> Like being itself, it surrounds and traverses me. Depth is space in its lived fullness, experienced by the subject. It has no end because we are always localized, at its center; one might even way we are its source. It has a spatiotemporal dimension, with 'distance' in space and time giving rise both to depth and to memory.<sup>33</sup>

Merleau-Ponty's views on depth drew upon Husserl's investigation of the lived body in space. In both thinkers, depth is structured by what is not (yet) visible or tangible, and thus as linked to the movement and motivation of the embodied subject. For both, it involves things being given at a distance from myself at the center, things being given together, and things being not given completely.

# a) Distance From Myself as the Center

A divine being would see depth and breadth as the same, suggests Merleau-Ponty, (since this being would be everywhere at once, not situated at any point.<sup>34</sup> Depth is the dimension that "immediately reveals the link between subject and space," for only an embodied subject can experience objects as near and remote.<sup>35</sup> Depth, with its nearness and farness from me, points to a "certain indissoluble link between things and myself by which I am placed in front of them". The nearness and farness as experience, the depth around me, spreads out radially from a center that is my 'here'—for my consciousness is always bound to a body, thus at a given point.

Visually, things around me appear progressively farther away, all the way up to the limits of my perception: the horizon line that encircles me all around. Visual depth ends at the horizon, where the ground plane meets the sky.

<sup>&</sup>lt;sup>31</sup> PhP, 162.

<sup>&</sup>lt;sup>32</sup> PhP, 310.

<sup>&</sup>lt;sup>33</sup> Merleau-Ponty explicitly compared depth with memory; both deal with our relation to what is no longer immediately present, and both are misunderstood if the gaps and distances (in space and time) are not present to consciousness; that is, I am aware of perceiving from a point removed, in space or time, and of those connecting interludes and distances. Neither memory nor depth is properly represented as "a direct perception with no interposed contents" (PP, 309). Rather, memory, and depth, "are built out of the progressive and continual passing of one instant into another, and the interlocking of each one, with its whole horizon, in the thickness of its successor" (PhP, 309).

<sup>&</sup>lt;sup>34</sup> PhP, 266.

<sup>&</sup>lt;sup>35</sup> PhP, 311.

Husserl first pointed this out, noting that depth consists in "a zero point and an infinity limit (the horizon)." 36 Beyond the horizon, the limit to the visual depth I see, there is always more depth beyond. What is beyond, can be accessed by my own movements. Indeed, I carry depth with me and it has no end. We begin to see how movement is essential to depth—a question that Husserl explored thoroughly, as we shall see further below. For it is because I can move my body that every point "far" can be turned into a near one "at will", observed Husserl.<sup>37</sup> In this way, every other position in the world can become a new 'here', a new zero-point for my orientation. Therefore the depth I experience moves with me.

Depth is not to be confused with breadth, which is always seen from the side, in full, Merleau-Ponty reminds us. In breadth, is no qualitative difference from one end of the breadth line or axis to another. Breadth, however, seems initially to be a "relationship between things themselves, in which the perceiving subject is not implied."<sup>38</sup> Depth on the other hand, has an axis that is qualitatively different at both ends. I am always one of these ends, and the horizon is always at the other. It is the centrality of the embodied subject that gives rise to depth, and what makes the idea of exchanging breadth and depth so antithetical to lived space, for Merleau-Ponty. The axis of depth is qualitatively varied in a way that the breadth axis is not. Yet the idea of confusing elements along the depth axis, that is, of confusing near and far, in the way that we might confuse right and left, is absurd, because it is formally impossible.

### b) Things Given Together

Depth has a nonuniform axis, as we have seen, since I am myself always at one end of my own line of sight; or, conceived differently, at the center of the horizon encircling me. But depth is not only, or even primarily, an axis or a distance. It consists in things given together; that is, it is the "dimension in which things or elements of things envelop each other" rather than being juxtaposed, as they are in height and breadth.<sup>39</sup> I do not see all the sides of a cube at once, notes Merleau-Ponty, indeed, I can only grasp them as coexisting, arranged in depth, if I do not see them all at once. Depth thus depends on coexistence in time and space, on things being given simultaneously in both. Perceiving in depth "draws together all objects in one grip."40

Things compete for my vision, as I focus on one thing and then another, at various distances. I gather them all in my perspectival field of vision, and I am aware of all their distances at once. Even when I focus on one object, the others still play a role in depth. They are superimposed, enveloping, at various distances. The enigma of depth, for Merleau-Ponty, "consists in the fact that I see things, each one in its place, precisely because they eclipse one another, and that they are rivals before my sight precisely because each one is in its own place-in their exteriority, known through their envelopment, and their mutual dependence in their autonomy."41 The set of all objects is part of the

<sup>&</sup>lt;sup>36</sup> The zero point is the lived body; this point horizon structure of the body in space gives rise to the nonuniformity of the axis of depth, as described by Husserl in Thing and Space: "The peculiarity of a horizon therefore resides in the nonuniformity of the dimension, in the fact that depth has a "null-point" and an "infinity-limit" whereas breadth specifically has qualitatively different direction but no limits that have to be distinguished by means of qualitative peculiarities" (273). <sup>37</sup> TS, 73.

<sup>38</sup> PhP, 298.

<sup>&</sup>lt;sup>39</sup> PhP, 308.

<sup>40</sup> PhP, 329.

<sup>&</sup>lt;sup>41</sup> EM, 140.

background to any given object of my focus, and influences my sense of depth to that object. The role of surrounding objects is especially apparent when I move about, since I notice that the objects nearer to me (than an object of focus) shift their lateral position quicker than do objects further away: this is the parallax effect. For instance, when I walk past a house I am looking at, the fence seems to move by me more quickly than its walls, while the distant tree seems nearly stationary.

Yet even when I am not moving, the presence of multiple objects still affects my reading of depth, through the relative sizes of similar objects and my focusing alternately on the near and the far ones. For Merleau-Ponty, multiple objects situated between a viewer and some given focal object add to the viewer's sense of depth; conversely, if they are lacking, the distance to the focal object seems to shrink. "Interposed objects, in the natural context 'mean' a greater distance," writes Merleau-Ponty, according to some "silent language of perception" that is more akin to gestalt psychology than objective logic.<sup>42</sup>

All these phenomena mentioned here --parallax motion, relative sizes, superposition, screening—contribute to depth as we ordinarily perceive it, and all are well-recognized by psychology of perception. Yet these are all features of visual perception, pertaining to objects we can see and their apparent interrelation. We have not yet touched on the critical aspect of depth as discovered by phenomenology, namely, invisibility. For depth involves the awareness that things have more to them than the aspect visible to us at one moment in space and time. The appearance of depth depends on the appearance, in some indirect fashion, of that which is not explicitly visible. As Merleau-Ponty wrote in *Visible and Invisible*, depth is "preeminently the dimension of the hidden."<sup>43</sup>

### c) Not Given Completely: the Invisible.

Vision is always perspectival. We perceive one facet of a thing at the expense of other, hidden facets. Yet I cannot but be aware of the hidden sides of things: my desk has an underside, the stack of books upon it has a nether side. My awareness of these invisible sides is not due to memory or knowledge: it is a feature of perception itself. This coperception, as Husserl called it, of the invisible aspects of things intrigued both Merleau-Ponty and Husserl before him. Merleau-Ponty describes the 'invisible' sides of the objects around him, as follows:

When I look at the lamp on my table, I attribute to it not only qualities visible from where I am, but also those which the chimney, the walls, the table can 'see'; but the back of my lamp is nothing but the face which it 'shows' to the chimney. I can therefore see an object in so far as objects for a system or world, and insofar as each one treats the others round it as spectators of its hidden aspects and as guarantee of the permanence of those aspects. Any seeing of an object by me is instantly reiterated among all those objects in the world which are apprehended as co-existence, because each of them is all that the others 'see' of it. Our previous formula must therefore be modified; the house itself is not the house seen from nowhere, but the house seen from everywhere."<sup>44</sup>

<sup>&</sup>lt;sup>42</sup> PhP, 56. His observation explains why barren landscapes seem to have less depth, despite the vast distances made visible, than wooded or mountainous realms do. For depth does not arise from unobscured views of long distances. It needs intervening objects that occlude others, so as to give a sense of distant determinate places, distinct and separate from my 'here', but nonetheless partly visible, partly accessible (whether visually or physically).

<sup>&</sup>lt;sup>43</sup> Merleau-Ponty, *The Visible and the Invisible*, ed. C. Lefort, trans. A. Lingis. (Evanston: Northwestern University Press, 1968), 219. Hereafter cited as VI.

The sides of things which I cannot see myself are "seen" by the other objects occupying different positions from me. This somewhat metaphorical notion that the surrounding objects can "see" makes intuitive sense to us. Depth partly arises from our ability to imagine the view from other positions, so the metaphor helps us to vicariously imagine other vantage points.<sup>45</sup> This question of how these unseen aspects of a thing might appear is crucial to phenomenological understanding of depth and how we put together a sequence of appearances. On the other hand, the space "seen" by the lamp or table, by the other, is invisible to me; for in depth I cannot master all space at once. The objects remind me of this too. For depth does not lie in ultimately changing one's position in order to see a thing from all sides, or to be able synthesize all the various points of view. It comes precisely from not ever being able to see everything at once (but to nonetheless understand the other, invisible perspectives as given along with the visible one). Depth arises from the fact that invisibility is constitutive of visibility itself, for "the hallmark of the visible is to have a lining of invisibility in the strict sense, which makes it present as a certain absence."<sup>46</sup> Depth is thus "preeminently the dimension of the hidden...the means the things have to remain distinct, to remain things, while not being what I look at at present.<sup>47</sup> Yet the hidden sides of things also call us forth; they ask to be discovered and seen. The lure of the invisible is not only in what remains unseen, but in how the various appearances unfold in tandem with the body's explorations, as Husserl's meticulous analysis, presented below, will make clear.

### 3.1.4 The Not Given Completely, according to Husserl

In sense perception, things never appear to us in their totality.<sup>48</sup> For as Husserl observes, it is inconceivable that all sides of a thing be given to our vision at once.<sup>49</sup> Instead we are limited to a given perspective, always changing due to time and motion. Throughout this constant change, there is continuity, however. Describing how one might view a tree, Husserl writes, "we pass over it with our eyes, now we step closer to it, now back away from it, now here, now there, we see it now from this, now from that side. During this process the object is constantly given to us as unchanged, as the same; and yet a slight turn of our attention teaches us that the so-called perceptual images, the modes of appearance, the aspects of the object, constantly change."<sup>50</sup> Perspectival seeing involves a continuous variation in the appearance of the object, yet I experience the selfsame tree.

Limited to one perspective, or adumbration, at a time, I nonetheless remain aware of the other, not-visible aspects (sides, back) of the tree. "In our momentary perception of an object, that which we do directly perceive also

<sup>&</sup>lt;sup>45</sup> And perhaps there is more to Merleau-Ponty's striking imagery of inanimate things seemingly endowed with sight and awareness. For it is indicative of a theme that will later become central to musings on the flesh, notably in "The intertwining-- the Chiasm". The seer therein is said to exercise a vision that "he also undergoes from the things, such that, as many painters have said, I feel myself looked at by the things, my activity is equally passivity..."(VI, 139). <sup>46</sup> EM, 147.

<sup>&</sup>lt;sup>47</sup> VI, 219.

<sup>&</sup>lt;sup>48</sup>Dan Zahavi points out that the term "perspective" here is both literal and metaphorical: phenomenology analyzes our mental experiences from the subjective viewpoint (how we perceive, remember, imagine, etc.), but it is also literally the very mode in which we perceive the world around us. Objects and spaces are given to us perspectivally, offering only sides. See *Husserl's Phenomenology*, (Palo Alto: Stanford University Press, 2002), 15.

<sup>&</sup>lt;sup>49</sup> Husserl, *Analysis Concerning Passive and Active Synthesis*, trans. A. J. Steinbock, (Dordrecht: Kluwer Academic Publishers, 2001), 40. Hereafter cited as APAS.

simultaneously calls up what we do not: the unseen aspects and hidden sides of the object, to a 'multifarious continua of possible new perceptions...in which the same object would show itself from ever new sides" writes Husserl.<sup>51</sup> My awareness of these not-visible sides is a form of co-perception, an awareness that there is more to be directly perceived, it is a perception of perspectives available but not yet brought to light; in other words, not fulfilled, not appearing as such. This awareness is not due to mental association, habit or memory. Rather, the invisible sides are "also there for consciousness" and "co-meant as present," even while invisible (they are "apperceived" or "appresented.")<sup>52</sup> Thus perception of real, three-dimensional objects is marked by a "curious schism" notes Husserl, between what is directly seen and what is not directly seen. We are conscious of what we see, as well as the horizon around it—i.e., the additional possible adumbrations that can give us a more complete sense of the thing.

This apperception of the non-visible is not only the key to our sense of depth and of three-dimensionality, it is crucial to our sense of reality. There is no depth, qua invisible sides, in unreal situations such as dreams and imagination—and in more the recent fabricated spaces of photography and video. Whatever appears therein is flat and frontal, without any sense of space around or behind them. The co-perception of the invisible along with the visible is thus the hallmark of a materially real, three dimensional environment. Curiously, this is why there is no real "depth" to the sky, for Husserl; for it has no other sides to be seen.<sup>53</sup>

A three-dimensional thing perceived through changing perspectives, is bounded by what Husserl calls a "horizon". For any single adumbration, any facet of a thing available at a given moment, I am aware of it as belonging to a series of possible, related ones. "Everything that genuinely appears is an appearing thing only by virtue of being intertwined with an intentional empty horizon, that is, by virtue of being surrounded by a halo of emptiness with respect to appearance. It is an emptiness that is not a nothingness, but an emptiness to be filled out; it is a determinable indeterminacy."<sup>54</sup> As a result of my apprehension of the 'not visible', my consciousness is lured forth to perceive additional aspects, so as to fill out these empty horizons. "Every perception… points to a continuity, to a multifarious continua of possible new perceptions, and precisely to those in which the same object would show itself from ever new sides."<sup>55</sup> Consciousness is always both retaining what it has experienced while also receiving anew the perpetual flow of new perceptual data (new perspectives or adumbrations) that is anticipated and integrated to prior flow; all in order to achieve an "optimal givenness" of the object.<sup>56</sup> Yet we are not always able to go and fulfill these possible other perceptions; nor do we have

<sup>&</sup>lt;sup>51</sup> APAS, 41.

<sup>&</sup>lt;sup>52</sup> "Perception is 'only possible in the form of an actual and genuinely original conscious-having of sides and a coconscious-having of other sides that are precisely not originally there. I say co-conscious, since the non-visible sides are certainly also there somehow for consciousness, 'co-meant' as co-present. But they do not appear as such, genuinely." (APAS 40).

<sup>&</sup>lt;sup>53</sup> In *Thing and Space*, he writes, " if the blue of the sky is seen as a vault, thus a physical body, it should have sides and back (i.e. an invisible that gives it depth, which could be seen from other angles, etc. with some terrestrial bodies (moon, mars) we can get closer via implements, explore; make the imperceptible perceptible", writes Husserl. With the sky this is not possible, for "it is not an actual body but only a semblance of one" (256). More simply, there is no other side of the sky to be grasped, no other viewpoint upon it that would preserve its character as sky.

<sup>&</sup>lt;sup>54</sup> APAS, 42.

<sup>&</sup>lt;sup>55</sup> APAS, 41.

<sup>&</sup>lt;sup>56</sup> Zahavi, Husserl's Phenomenology, 35.

to do so, in order to perceive the depth and reality of a thing. It suffices to apprehend the signs that point to possible adumbrations.

Perception is incomplete and indeterminate: it calls forth our anticipation and movement, themselves unfolding in time. We are moved to round out our view of things. In other words, perception entails a specific indeterminacy that beckons, or at least offers, further determinacy. "It —what is already seen—is constantly there as a framework prefiguring something new; it is an 'x' to be determined more closely. There is a constant process of anticipation, of preunderstanding" writes Husserl.<sup>57</sup> For on either side of the present adumbration, before or after, lies a determinate emptiness and anticipation that gives fullness to the momentary perception. Perception is more than what we immediately grasp; it is "a complex of full and empty intentions (rays of apprehension)."<sup>58</sup>

In speaking of the "multifarious continua of possible new perceptions" by which an object would show itself from additional sides, Husserl quite uncharacteristically uses anthropomorphic, even whimsical language. Speaking on behalf of the object, Husserl continues, "There is more to see here, turn me so you can see all my sides, let your gaze run through me, draw closer to me, open me up, divide me up; keep on looking me over again and again, turning me to see all sides. You will get to know me like this, all that I am, all my surface qualities, all my inner sensible qualities."59 Husserl explains his own "suggestive" manner of speaking" as illustrating the guiding role of the object itself, whose appearances belong to a certain set of limited tendencies, which cohere amongst themselves, which "stay the course" so to speak. 60 For a given appearance is part of "an entire indicative system" that helps to "push us towards the appearances not given."61 Such language by Husserl is atypical, with the lure of discovery bordering on seduction. Is it mere coincidence that Merleau-Ponty similarly depicted various objects as sentient, as complicit in seeing? Both accounts attest to the appeal of the invisible sides of things, as they beckon, invite, and engage us. Things call upon the lived body, in motion, pulled forth, called to uncovering the things of the world. As Husserl repeatedly writes, "the courses of appearance go hand in hand with the orchestrating movements of the lived-body"; the perceptual process is likened to "a constitutive duet being played."62 For Merleau-Ponty too, there is an intimate gearing between body and world, for thing is the "pole of my body's operations, the terminus its exploration ends up in, and which is thus woven into the same intentional fabric as my body."63 The moving body in unison with the eye, (and not just the eye) is needed to uncover the invisible aspects of things, indeed to even perceive that there is depth to be uncovered(visible and invisibility at once).

<sup>&</sup>lt;sup>57</sup> APAS, 43.

<sup>&</sup>lt;sup>58</sup> Husserl, *TS*, 48.

<sup>&</sup>lt;sup>59</sup> APAS, 41. Husserl's description of apperceived, invisible sides is similar, here, to Merleau-Ponty's quasianthropomorphic imagery on the same theme, where each object "treats the others round it as spectators of its hidden aspects."

<sup>&</sup>lt;sup>60</sup> APAS, 41.

<sup>&</sup>lt;sup>61</sup> APAS, 42. Even what we directly see in front of us can be seen more precisely, has its own form of anticipation. Again, Husserl gives voice to the inanimate thing, who beckons us to "Draw closer, closer still; now fix your eyes on me, changing your place…you will get to see even more of me that is new, ever new partial colorings, etc. You will get to see structures of the world that were not visible just a moment ago, structures that were formerly viewed indeterminately and generally" (43).

<sup>&</sup>lt;sup>62</sup> ASAP, 50.

<sup>&</sup>lt;sup>63</sup> Merleau-Ponty, "The Philosopher and his Shadow," 167.

On the one hand, the invisible "lining" of the visible, the only ever partial givenness of things, is the very condition of being in the world, and it is both misguided and impossible to hope for a complete view, a fully visible "space without hiding places," –as Merleau-Ponty called Cartesian space.<sup>64</sup> On the other hand, by only partially appearing, are we not also drawn forth by the also tacit promise of things to show themselves ever more fully to the embodied subject, since there is already a complicity, a compatibility, an intertwining, between body and world? For perception aims at uncovering more: it is "a dynamic process driven by a desire for intuitive presence."<sup>65</sup>

We have now a clearer picture of the contrast between the modern notion of depth and the phenomenological one. In the latter, the main sense is vision, which somehow grasps distances to a given, isolated thing; mind and vision operate independently from body and tactility; the things seen are passive and inert objects in space; depth perception is a question of how consciousness represents an external world that stands over and against it. For phenomenology, however, depth is due to an active and moving embodied consciousness, called forth by the thing to discover and synthesize its various aspects, visible and invisible; an interplay of the visual and kinaesthetic senses brings forth the depth and spatiality of the world.<sup>66</sup>

The phenomenological description of depth is both valid and essential. Nevertheless, it should not prevent us from recognizing that depth is also closely linked to the forward, or frontal direction of the body, thus can take on a strongly axial and linear character. Depth belongs to vision and mobility at once, both of which are directed "forwards," by definition. (We see what is in front of us; or rather, when we turn to see or move, this rotation of our body determines what direction is forward and frontal.) Moving forward is thus linked to depth, whether it be actual or imagined motion, active or passive. Yet we can turn to face any direction, and so "forwards" is also potentially all around us. In short, depth displays a kind a duality: axial depth is linked to practical movement, while Merleau-Ponty's "existential depth" is the sum of all dimensions, that is, it is the sense of space all around us, prior to any axial structuring or orientation.

## 3.1.5 Axial versus Volumetric Depth in Action Space and Attuned Space

We have seen two legitimate accounts of depth: with the moderns, depth as axial, a visual line or direction, something linear, associated with the forward/back axis of the body. With the phenomenologists, as a voluminosity all around us with things receding from our central point. In both, space is organized around a perceiver at its center.

I would like to suggest that whether depth is axial or all around depends on the mode of space that one inhabits, itself determined by one's activity. Axial depth is typical of the spatiality constituted by practical activity—what Ströker called the "space of action"—while voluminous depth is more characteristic of "attuned space"—that is, space

<sup>&</sup>lt;sup>64</sup> EM, 9.

<sup>&</sup>lt;sup>65</sup> Filip Mattens, From the Origin of Spatiality to a Variety of Spaces. *Handbook of the History of Phenomenology*. Ed. D. Zahavi (Oxford: Oxford University Press, 2018), §29.1 (p 3/21).

<sup>&</sup>lt;sup>66</sup> Modern philosophy's explorations into shape and space tended to discuss the tactile versus visual fields, as in Molyneux's problem and in Berkeley's framing of the question in NTV; a tendency that leaves traces in Husserl; Merleau-Ponty's inclusion of more proprioceptive and vestibular sensations is a departure from this tradition, or rather, it enlarges of the scope of "tactility." That this new emphasis, in Merleau-Ponty, enables us to talk of a pre-objective orientation to the world is the core of my argument.

associated with movement for its own sake, symbolic or expressive.<sup>67</sup> These different modes of space are determined by the kind of activity we engage in (a theme explored more fully in the next chapter).<sup>68</sup> Moreover, I am differently oriented in each, according to Ströker. In the space of action, I am always "oriented and striving towards aims", and thus have a sense of "here" vs "there", with distances and positions of things measured and reckoned into my movements. I situate myself with respect to the object of interest, tracking its position relative to me (even non-thetically). This kind of depth is axial and directed (and more egocentric, as we shall see in the next chapter). By contrast, attuned space does not involve action but rather a "purposeless lingering," or else some expressive movement for its own sake: for instance, simple contemplation, dancing, moving in patterns, symbolic rituals, etc. If, in space of action, we are focused on the distance from here to there, with our body as the central point of orientation, by contrast in attuned space there is less division between self and surroundings, and more unity between body and world. The sense of my body in each space is different as well: while my limbs in action space seem to move separately from my torso(an outstretched arm, climbing legs), in attuned space I feel my body more as a whole.<sup>69</sup>

The relation of activity to space is beautifully illustrated by Philip Mattens in his comparison of walking backwards to dancing.<sup>70</sup> Consider how uncomfortable we normally find it to walk backwards, or be turned repeatedly around, he suggests. Yet we do not mind--even tend to enjoy--stepping backwards or twirling around if we are dancing. Walking backwards *is strange for us*, because the perceptual world no longer unfolds as expected, in accordance with our practical aims, with our kinesthetic motivations unfolding a predictable set of appearances. Walking backwards, or with one's eyes closed, is awkward and unnatural because "it is a type of movement that goes against the grain of a spatial order deriving from purposive actions solicited by a world of objects."<sup>71</sup>

Dancing on the other hand, is entirely different; its movements are not directed towards some external goal, it aims rather to inhabit and move expressively within a very different kind of space, one that is created by music. For music creates a particular kind of space, argues Mattens. Invisible and everywhere, music fills the entire space and suffuses it;

<sup>&</sup>lt;sup>67</sup> For a fuller account of action versus attuned space see Ströker, 19-69; I also present her ideas in more detail in Chapter Four. Ströker's distinguishing of the space of action and attuned space is not the first or most notable effort to describe space in terms of activity: Erwin Straus also proposed a distinction between the space of practical activity and the space of emotional, expressive engagement. (Straus however distinguished between gnostic and pathic perception; the former serving as cognitive and practical relation with particular things, involving judgement and evaluation, and the latter, more immediate and emotional, depending on the particular sensible mode engaged. "Prior to judging and evaluating, or even recognizing the object, I am already affected by its sensory manifestation; the pathic moment thus constitutes a most "immediate communication" with our surroundings.") See Straus, *Phenomenological Psychology*, (New York: Basic Books, 1966), 11.

<sup>&</sup>lt;sup>68</sup> "The idea that spatial perception is constitutively related to bodily action is widely associated with the phenomenological tradition" (Mattens, 566). A circular question does arise here; which I propose to acknowledge, not address: namely, does the perception of space shape our actions, or do our actions influence the mode of space perceived? Or, as Mattens stringently formulates it: Should we posit the interplay between presentational and kinaesthetic sensations as a principle constitutive of spatial extension or should we say that a subject having sensory impressions is always already in a basal spatial relation to its surroundings simply by sensing such impressions?" (575). <sup>69</sup> Ströker, 57-58. Regarding the articulation of the body schema in action versus attuned space, see Ch. 4.

<sup>&</sup>lt;sup>70</sup> Mattens, §29.2, p. 569.

<sup>&</sup>lt;sup>71</sup> Mattens, §29.2, p. 571.

sound may have a source but it does not present itself as an object, as with color. We do not seek to approach it or turn towards it, but to properly place ourselves within the space structured by the configured tones—that is, to find some expressive posture adequate to the symbolic and emotional space created by music. Citing Straus, Mattens points out that musical space is "a symbolic part of the world" which evokes some response, be it attentive stillness, expressive motion, rhythmic participation, etc.<sup>72</sup> The motions of dance are without practical aims-- and indeed unsuited to them, replaced by whirling, "It is not that a dancer experiences her own body more intensely than, say, someone playing tennis or climbing the stairs ...a dancer experiences her bodily relatedness to the world differently." Exploring the symbolic and expressive possibilities of his or her own body, and in relation to the space delineated by the music.<sup>73</sup> Such space is not optical, but aural; I no longer direct my gaze at this or that individual thing, I rather lose myself in some all-pervasive melody.<sup>74</sup>

# 3.1.6 Conclusion to Part I (Chapter Three)

The modern philosophers who investigated depth, including Berkeley and Descartes, explored how a three dimensional world could arise from flat retinal images, and their concern was whether depth perception was innate or learned by habit. They construed depth as the gauging of distance, tantamount to the line of sight from the eye to the object seen. Depth in this sense was primarily visual and linear, associated with the "forward" axis. Vision is conceived as a biophysical mechanism, similar to a camera. Since the chief aim was explaining our gauging of distance, depth became quantifiable, objectively calculable, thus ascertainable by other means, or other viewpoints. Invisible distance is made visible from a different viewpoint, as breadth.

The phenomenological approach to depth, by reintroducing subjective consciousness into the act of seeing, understood depth quite differently. Depth is dimension that "immediately reveals the link between subject and space," such that things are always near and far, partially visible and partly obscured.<sup>75</sup> Merleau-Ponty aimed to elucidate the experience of seeing from within, as a seeing eye, not a seen eye that is akin to a camera. For while it is true the eye functions like a camera, it is more than that: it is also living flesh, forever and intimately bound to a conscious mind as well as to a moving, motivated body. The subject and object in phenomenology are blurred, that is, mutually implicated

<sup>73</sup> Straus holds that dancing to music occurs within its own frame of reference, one that is "constituted of symbolic spatial qualities, like wideness, openness, grandness, and depth" (Straus 1966: 35, cited in Mattens, 573).

<sup>&</sup>lt;sup>72</sup> Mattens, §29.2 (p. 572).

<sup>&</sup>lt;sup>74</sup> Music's great influence on our sense of space is undeniable, as Matten's examples make clear. He contrasts the use of the voice used in a utilitarian way, by calling out to someone to get their attention, force used to project one's voice, bridge a distance, versus singing, where the only aim is musical, the volume and sounds are expressive, coordinated, etc. "Addressing someone over there and shouting to a distant person are originally spatial in nature; being induced to sing along or sing out loud are vocal doings of a spatially different nature"(573). In a final, moving example, Mattens expands on Straus's evocation of a tired soldier responding to a march struck up by the band: As soon as the music begins, the soldiers raise their gaze toward the horizon and their pace revives. They no longer proceed—one step after another—from their point of departure toward their destination; now they march: they experience their vital doing. This transformation of the purposeful, goal-directed activity of walking into the music induced vitality of marching initiates a different relation to spatiality: "direction and distance are (p. 571) replaced by symbolic space qualities; the stretch extending into the distance is replaced by the wide, open space ahead" (Straus, cited in Mattens, §29.2 /p. 574). <sup>75</sup> PhP, 311.

in each other; the former more embedded in its context and the latter more constituted by perception. For instance, whereas the modern view took the eye as the center of optical rays from the surrounding objects, a locus of objectivized vision, the seeing eye for phenomenology is embedded in space and time, in a moving body, in an anticipating and synthesizing consciousness. No longer analyzed one at a time, single and fixed at a given distance. For any given object of my focus, other objects "background" to any given object of my focus, and influences my sense of depth to that object are given all together, enveloping and overlapping and simultaneous in space and time. Instead, each object has its own horizon and other possible appearances. Because no object, or set of objects, is ever given completely to our limited perception, we see what is visible along with its invisible "lining"; the latter being the hallmark of true reality. This incompleteness lures us forth to discover the whole, or to form an optimal vision of the things around us.

Merleau-Ponty's poetic descriptions of depth are consistent with, and arguably clarified by, seeing them in light of Husserl's work on spatial perception of the lived body. The evocative idea of things seeing facets of other things, that is, of the implied view onto the invisible aspects, never accessible to me but vicariously and poetically present to objects around me, is clarified by Husserl's notions of the horizon and of co-perception of the implicit but not visible sides.

Depth, when phenomenology retrieved it from objectification, more fully describes space as we live it, that is, a world of things in space as experienced by a conscious, motivated, mobile body, always situated in a specific place and time, oriented and orienting. No longer merely visual and axial, the locus of geometric and optic relations, it is the very medium of being embodied in the spatial world. In the convergence of the object, now taken in context (the thing in space) and the incarnated subject (now more than just a static eye), depth emerges.

## 3.2 Part II: Depth in the World

Seeing depth comes naturally to us, because lived perspective is our mode of perception, observes Jean-Luc Marion in *La Croisée du Visible*.<sup>76</sup> We are prone to seeing depth, and creating it, even where it does not exist, for instance, in images. Paintings of landscapes and architectural scenes take advantage of this natural tendency of ours to see depth, simulating it with the technique of perspective. Yet this depth is illusory, fictional. "Even when we run our fingers over the height and width of an image, we never penetrate the third dimension, Marion writes, "for it is not there; the surface is flat."<sup>77</sup> The image, with its flatness and allusiveness to depth, exerts a certain fascination, one that has only increased with time and ever increasing ways of creating images.

In this section, I will begin by comparing the illusory depth of images with the real depth of lived space. Though the differences are quite apparent, it is nonetheless helpful to make them explicit, for they serve to illustrate the different approaches to depth, i.e. the axial space of the modern philosophers versus the all-encompassing depth of Merleau-Ponty. I will then go on to explore how the mode of activity and attitude of the subject plays a role in these experienced forms of depth.

### 3.2.1 Illusion versus Reality

We see in depth naturally, and are prone to find it in the visual realm. Perspective is a form of representation that takes advantage of our natural mode of perceiving in depth. Akin to the linear depth studied by the moderns: the geometric of light and optics understood well enough to recreate the scenes of actual space. The "invisibility" of distance is never more clear than in its illusory recreation. As Marion stresses in *La Croisée du Visible*, perspective is not primarily a method of projective drawing; rather it is how we see and apprehend actual places and spaces.<sup>78</sup> Perspectival drawing is a flat simulation of space and volume as it appears to a viewer. By recreating the geometry of the light rays intersecting with the human eye. Perspective renderings created the illusion of actual space, of depth, for an immobile and disembodied viewer.<sup>79</sup>

A perspectival rendering captures the most objective aspects of spatio-visual experience, namely, the geometry of the lines of sight between the eye and the world of spatial things. It thereby reproduces certain visual aspects of depth perception: objects overlap, sizes of things vary in proportion to their distance, and receding parallels converge at a distance. Drawings of perspective are thus entirely consistent, even illustrative, of depth as construed by the moderns:

<sup>&</sup>lt;sup>76</sup> Jean-Luc Marion, La Croisée du Visible (Paris: Presses Universitaires de France, 1996), 26.

<sup>&</sup>lt;sup>77</sup> It is related to a static viewpoint (in phenomenological terms, it is a single adumbration, frozen; it is accessible to the eye, but not linked up to real time or space.

<sup>&</sup>lt;sup>78</sup> Marion, 26.

<sup>&</sup>lt;sup>79</sup> The lines of the visible world are geometrically projected onto a flat plane between the viewer and the scene—just as if a person seated at a window were to draw directly the scene visible through it directly upon it. The image thus preserves all the lines of sight that run from the viewer's eye to the objects seen.

namely, as a set of geometrical relations between eye and things. For again, Berkeley held that distance was invisible; that is the line (or distance) from any given object to my eye cannot be seen by me, since it is perpendicular to my eye and thus only a point. (The "invisibility" of depth noted by Berkeley is precisely what allows the illusion of perspective to work.) Yet this medium meant to capture the viewer's spatial perspective ultimately turns out to objectify space and remove the viewer from it. The space of the image is framed, separate from the larger expanse of real time and space; it is accessible only to the eye, while it remains unreal and inaccessible for the body. It lacks a frame of reference that I can occupy; my body remains in real space while I visually enter an "ideal" one.

Artificial perspective forgets "that we see not a single fixed eye but with two constantly moving eyes," as Panofsky remarked in his 1927 opus *Perspective as Symbolic Form.*<sup>80</sup> It therefore lacks key features of real space and depth: there is no stereoscopic effect due to slightly different images on each retina; nor is there a parallax effect, in which closer objects pass by faster than distant ones. In phenomenological terms, the view seen by a single static eye, motionless in time and space is a single adumbration. It is frozen; it is accessible to the eye, and my own movement does not unfold new appearances. Flat and static, a perspectival rendering cannot duplicate the invisible aspect of depth, those apperceived hidden sides of things. Everything that should appear to the viewer is already given--all visible points are transcribed onto the picture plane. All is visible because there is only one viewpoint on the scene; we can never imaginatively project ourselves into other spaces from which other sides of the depicted objects are available, as we did with Merleau-Ponty's lamp, the co-perception of invisible aspects, is precluded, no lure of unseen.

Finally, and perhaps most important, while the space of the artificial rendering is entirely accessible to the eye, it remains unreal and inaccessible for the body. I do not feel its space as an extension of our own; as a viewer, I remain oriented and anchored to my own space outside the picture. I know where the picture hangs, and integrate this location into my concrete frame of reference, but this does not include not the space inside it. The image is framed, limited, and disconnected from the spaces around it. The depicted space abstracts from lived space by formalizing only the visual aspects. A viewer can see the space but not enter it; understands it but cannot feel it. Visual space is still available, in a way, but it is a strange kind of accessibility that reduces the viewer to an intellect and an eye, but deprives him or her of emotional engagement that comes with being in the flesh, moving here or there, making choices as to how to move and what to see. There is none of the curiosity and thrill of discovery involved with exploration of real depth, (or even the possibility of doing so).

Finally, it is space without orientation, without meshing of body and its surrounds, with no sense of the axes of the body linking with those of the world. As Panofsky himself noted, perspectival drawing "negates the difference between front and back, right and left, between bodies and intervening space ("empty" space), so that the sum of all the parts of

<sup>&</sup>lt;sup>80</sup> Erwin Panofsky, Perspective as Symbolic Form (New York: Zone Books, 1991), 29.

space and all its contents are absorbed into a single "quantum continuum."<sup>81</sup> In perspectivally represented space, the lived dimensions of the body become mere geometry, immaterial perpendicular axes. But our awareness of these axes, our movement along them and alignment with them, is needed for the lived body to have any rudimentary sense of spatial orientation at all. Quite simply, the viewer remains in lived space, while visually occupying ideal space. That is, she visually and imaginatively enters the ideal space of the picture but all her haptic and kinesthetic sensations remain tied to the space where she stands, as does her sense of orientation.

Perspective, an effort to depict depth, ironically missed what is most requisite to depth.<sup>82</sup> It lacks the key features of real space: a frame of reference that I can occupy, (such that I can transpose my perspective to take up other stances within it). It is accessible to the eye, but not the body and so I am not the center of sense of orientation. Even if I encounter virtual spatial world, with unlimited extension, my body remains in one space while I visual enter another, visual one: in a video game, for instance, the felt axes of verticality, forward back, left and right, are abstracted into a formal grid into which objects are slotted, floating visually, intangible.) My body remains the inalienable site of three differentiated axes, a sense of weight and balance from the vertical force of gravity, etc., within the frame of reference that is the natural world. Visual space is still available, in a way, but it is a strange kind of accessibility that reduces the viewer to an intellect and an eye, yet deprives me of concrete engagement, possibility to choose to how to move and what to see, with the emotional engagement, curiosity, thrill, apprehension, that comes from being entirely submerged in a place, and entirely exposed to any encounter.

In short, the depiction of visual depth in perspective misses those aspects of depth that phenomenological accounts of space would consider essential: shifting perspectives over time, the lure of unseen, invisible aspects and the awareness of them as available from elsewhere, a sense of orientation both as center and as the site of three differentiated axes, a sense of weight and balance from the vertical force of gravity, etc.

## 3.2.2 Depth and Landscape

As opposed to this illusory depth, let me now consider depth in reality by turning to an ordinary experience that is emblematic of depth: occupying a real landscape. Any landscape, natural or artificial, provides the essential aspects of spatial experience that go beyond the visual: namely, the haptic, tactile, and above all, oriented. Moving through a landscape epitomizes the phenomenon of spatial depth, for in it the static eye of perspective becomes a fully corporeal, embodied vision that "moves about and creates reality from his or her own dynamic perspective," according to landscape historian and philosopher Michael Jakob in his insightful study, *Paysage*.<sup>83</sup> In other words, just as the viewer of

<sup>81</sup> Panofsky, 30.

<sup>&</sup>lt;sup>82</sup> This is true not only in drawing and painting, but in any medium based in images: for instance, photography, film, virtual reality. In any of these, a viewer is bound to remain physically external to the scene, not oriented or anchored to the space within it. Consequently, there is a tendency to take a distant, aesthetic view, to remain spatially disengaged to a scene that is static (or unreal) in space and time, unable to viscerally participate.
<sup>83</sup> Jacob, 36.

a perspectival painting occupied a center —a static center of the cone of vision—so too does the embodied subject in nature occupy a center, only it is now a moving center of a whole spatial world.

Like depth, a particular landscape arises from the relation of subject to surroundings. Merleau-Ponty, discussing space and depth in *Eye and Mind*, noted that "something about space evades our attempts to survey it from above"<sup>84</sup> A landscape can only be experienced from within, not from above or from without. For Michael Jakob, landscape is not to be confused with "a territory, nor a country, nor a site." It is the "extent of land taken in by the subject's view, grasped "at once," at one stroke."<sup>85</sup> It occurs where nature meets subject, arising from the contact between them.<sup>86</sup> Indeed, the very concept "landscape" reflects how we conceive our relation to nature. The term "landscape" was originally used to describe paintings of places, somewhat paradoxically. It is a case, Jakob suggests, of a facsimile that created the desire for the reality; i.e., people began to seek out the types of views countryside views commonly depicted as "the representation preceded the desire for the experience."<sup>87</sup> Yet the difference between a represented landscape and an "actual" one could not be greater, from the viewpoint of the embodied subject.

Reproductions of landscape, be they enormous paintings or photos, place the viewer's eye at a point exterior to the scene, at the optimal viewpoint, dominating it; so as to provide the comprehensive, most gratifying overview. Walking through a real landscape, however, I give up this privileged perspective in order to be embedded, enveloped, surrounded by a scene. Placed within it, my views are partial, due to the real depth beyond the entities all about, and the spaces between and beyond. In contrast to the immobile eye for which representations of perspectival space are constructed, in real space my vision is binocular, registering depth stereoscopically, and mobile, so that my view is always changing. And just as the viewer of a perspectival painting occupied a center —a static center of the cone of vision—so too does the embodied subject in nature occupy a center, only it is now a moving center of a whole spatial world. In an actual landscape, the scene around me changes with my own shifts in position and posture, so that the spatial relations in which I am implicated are ever calibrated anew with my every movement. I am aware of other viewpoints, at other locations, from which what is presently hidden to me must be visible. Called forth by the need to understand my surroundings, or just see them from a different vantage point; the very configuration of places lures me forth; I am aware of the place I now occupy, and another place available beyond, and their separation.<sup>88</sup>

However, my movement through the landscape is not only guided by what is visible or not visible. The fluctuating weather, felt as gathering wind, rising or falling temperatures with the changing light, both reflecting the passing hours, the scents of forest or water, the sounds of living beings that may or may not show themselves. Moreover, my own orientation and situation becomes a vital concern: I am aware of the path I took to arrive and how I must return, I keep

<sup>&</sup>lt;sup>84</sup> EM, 3.

<sup>&</sup>lt;sup>85</sup> Jacob, 30.

<sup>&</sup>lt;sup>86</sup> Jacob, 30.

<sup>&</sup>lt;sup>87</sup> Jacob, 32.

<sup>&</sup>lt;sup>88</sup> Like the scene depicted by Husserl, the objects themselves lure me onwards to see more of them.

track of distances completed and effort expended, of how much light remains in a given day, etc. I am curious about what lies in other directions, and what others I might meet.

Moving through a landscape epitomizes the phenomenon of spatial depth, for it calls upon a fully corporeal, embodied vision that "moves about and creates reality from his or her own dynamic perspective."<sup>89</sup> If a viewer of a painting or image remains outside the scene, taking a distanced, aesthetic view, the person exploring a landscape has the opposite experience. The latter exemplifies depth not only because it takes me beyond the visual, but primarily because it situates me amid things: I am the "zero point of orientation" only with respect to a surrounding world, felt as "there." Depth thus is tied, I submit, to my sense of orientation; that is, my awareness of my particular spatial relation to entities and places of the immediate surrounding world.

# 3.2.3 Expanding the Self's Horizons

Let me now return to the idea, proposed by Jacob, that the landscape is the relation of subject to some surroundings; the meeting of subject and nature. This is clearly true on the aesthetic level: It has become, in western culture, an important aesthetic experience, appealing both to the appetite for sensible variety as well as the need for beauty. Jacob himself pushes the idea somewhat further, asserting that "experience of a landscape is, first of all, an experience of the self," an idea I would like to examine a little more closely. <sup>90</sup> And does this self-heightening have anything with the role of depth, which as we saw earlier, "immediately reveals the link between the subject and space?"

At the most trivial level, all perception is accompanied by a sense of oneself as undergoing them; (the famous "T" which accompanies all of my representations). One perceives the act of perceiving as such. Add to this the sharpened awareness of being here and now, of one's physical location and particular situation, is heightened in the landscape; since I continually must keep track of my location within unfamiliar surroundings. My relation to my surroundings is defamiliarized, thus refreshed. Still, Jakob insinuates that the sensible and aesthetic self-awareness inspired by landscape is only preliminary to a deeper mode of self-reflection, one linked to a vivid awareness of larger spatiotemporal context. To illustrate his point, Jakob draws Petrarch's famous account of his ascent of Mont Ventoux in the fourteenth century.

Renowned scholar of poet of the early Renaissance, Petrarch claimed to be the first to undertake the ascent of the mountain merely to appreciate the view from its peak. Mt. Ventoux dominated the region where he had passed his childhood, and it was during a return visit that he decided on his ascent. It is said to have been atypical, at the time, to set out on such a purposeless and arduous excursion, but Petrarch wished to see "what so great an elevation had to offer."<sup>91</sup> He later recounts how the journey began as a physical quest but evolved into a spiritual one.

By his own account, Petrarch first tries to follow the easier paths through the valleys. But he loses much time in

<sup>&</sup>lt;sup>89</sup> Jacob, 30.

<sup>&</sup>lt;sup>90</sup> Jacob, 36.

<sup>&</sup>lt;sup>91</sup> Francis Petrarch, "The Ascent of Mont Ventoux," *The Italian Renaissance Reader*, eds. Bondanella and Musa (New York: Meridian, 1987), 14.

circuitous dead ends and ultimately is forced to backtrack and take the most arduous path straight up the steep, inaccessible mountain. From this rerouting, he draws a larger lesson, noting that our ultimate goals are only deferred by taking the easier path.<sup>92</sup> Later, having arrived at the peak, Petrarch is initially dazed and disoriented by the clouds below and the "great sweep of view spread out" before him. 93 Seeing the Alps on the horizon, he turns towards them and longs for the Italian skies, which he can see in his mind if not his eye. From here his contemplation shifts from place to time, as he recalls his life trajectory which took him to Italy. He reviews the major events of his life-the end of his studies in Italy, the course of an ill-fated passion, ultimately evaluating his current position with respect to them. Reviewing his moral progress, he wonders whether he will be able to die at peace in twenty years if he continues to live in the same manner as before. He all but forgets where he is, so deeply does he sink into self-examination. Eventually, the lengthening shadows of the setting sun bring him back to his present place and time. He then re-orients himself by remarking on actual places nearby, the port of Marseilles and the flowing Rhone. Just before descending, he contemplates the contrast between the immense vista and his own introspection, such that he found himself "now turning my attention to some terrestrial object that lay before me...now raising my soul, as I had done my body, to higher planes" 94 He happens to have brought a copy of Augustine's Confessions, which he opens at random, to the famous passage exhorting self-examination: "And men go about to wonder at the heights of the mountains, and the mighty waves of the sea, and the wide sweep of rivers, and the circuit of the ocean, and the revolution of the stars, but themselves they consider not."<sup>95</sup> Faith renewed and strengthened by this message, he closes his reminiscence of the day with a prayer that his thoughts "may thereafter "direct themselves at last toward the single, true, certain, and everlasting good."96

Petrarch's ascent, if we trust in his own account, reoriented him with regard to his purpose and inner life. The unfamiliar overview over familiar lands led to a moment of self-awareness that revolved around his particular locus in space and time, his very self-situation. As he looked over on the regions where his life had unfolded, in his own land and the imagined regions beyond, he orders the formative events and places that he has lived into those near and far, temporally and geographically, as if orienting himself within spatial as well as temporal depth.<sup>97</sup>

For Jakob, Petrarch's journey is a case of landscape as an "experience of the self."98 On the other hand, the

<sup>&</sup>lt;sup>92</sup> "Thou wouldst take a path which seems, at first thought, more easy, leading through low and worldly pleasures. But nevertheless in the end, after long wanderings, thou must perforce either climb the steeper path ... to its blessed culmination, or lie down in the valley of thy sins..." (16).

<sup>93</sup> Petrarch, 17.

<sup>&</sup>lt;sup>94</sup> Petrarch, 17.

<sup>95</sup> Petrarch, 18.

<sup>96</sup> Petrarch, 20.

<sup>&</sup>lt;sup>97</sup> To borrow Lonergan's terminology, his journey led him to his concrete fragment of lived space and time to a far vaster scale and context, one that he had already lived through, but had never grasped from the higher perspective. The view from above as close to what is called a "god's eye view" as one might humanly obtain, inspired him to take a certain distance from the world, engage in self-examination, and renew his commitment to his chosen aims. <sup>98</sup> Jacob, 36.

landscape and the view are not, properly speaking, the *cause* for all this salubrious introspection, but merely the occasion and setting for it. For all its historical and literary value, his well-known excursion remains but an anecdotal and overtly dramatized account, where an act of sheer curiosity is later justified as a form of spiritual reflection.<sup>99</sup> What, then, might one more broadly say of this characteristic convergence of place and self--which is, as I have claimed, exemplary of depth, insofar as it implicates and embeds us, as incarnated and mobile subjects, amid things themselves, both near and far, visible and invisible, etc. If indeed the landscape is conducive to self-reflection, if it brings a certain self-awareness into being, as the "I" who grasps the spatio-temporal whole, the center of a certain limited world, it not because a given place, or type of place, influences how we experience and contemplate the surrounding world. If it does so, this is rather, perhaps, because a certain model of the self as individual subject brings the landscape as such into being.

## 3.3 Conclusion: The Subject of Depth

Recall that Jakob points out that history of the landscape the representation preceded the desire for the experience.<sup>100</sup> Perhaps, too, the representation of the landscape (which preceded the experience) was itself preceded by a certain representation of the subject? My point here is that depth too might be a kind of cultural construct, a powerful one indeed, but nonetheless unique to western individualism.<sup>101</sup> I will briefly touch upon this question here, drawing upon a certain (provocative, but influential) historian who first proposed that the sense of space itself, and thus of depth, is specific to a given culture and characteristic of it. The related issue of egocentricity and its cultural variations is explored in the following chapter.

That depth is born of a certain view of the human being, as embodied subject of perception, is clear. Merleau-Ponty construed depth as specific to the embodied subject, always situated, always linked to the world by actions, a preoperative intentionality. Giving full due to Merleau-Ponty's notion of depth, and all it entails: situatedness, the embodied subject intertwined with the things of the world, the reciprocity of vision, the inseparability of time and space in the world of possible action; etc., still, we must ask if the target of his critique were not only the early moderns, with their objectifying tendencies, but also the entire tradition in which centrality of the ego was implied-where it was even unavoidable, both in terms of spatial orientation but also more generally? That is, a tradition in which the human individual was posited as that being "upon which all that is, is grounded as regards the manner of its Being and its truth," namely, the modern subject, described here by Heidegger, who is also "the relational center of all that is as such."102

<sup>&</sup>lt;sup>99</sup> Hans Blumenberg rightly notes the drama with which "the comparative modest excursion is stylized into a symbolic venture", in which resistance (such an ascent is unprecedented and arduous, caution the locals) only heightens his desire; see The Legitimacy of the Modern Age, trans. R. M. Wallace, (Cambridge: MIT Press, 1985), 342. Blumenberg dissects Petrarch's motivations in light of their historical context, namely, certain medieval values were giving way as modern ones began to emerge, in this case, sheer curiosity (see pp. 341-3).

<sup>&</sup>lt;sup>100</sup> Jakob, 32. Note that landscape emerged first as painted, in the 16<sup>th</sup> century, and only later as a description of nature. <sup>101</sup> Even egocentricity, too, might be partly a mode of spatial understanding: a mode that can be conjured up or forgotten, something like the transcendent ego of Sartre that is brought into being by reflection.

Just like the current notion of landscape reflects the relation of the subject to nature in western tradition, might the notion of phenomenological depth, most notably given shape by Merleau-Ponty, also be indicative of the subject's relation to space as such? Or might it, as I have suggested, be conditioned by a certain view of the subject? It turns out this question is not at all original.

In the nineteenth century, a certain historian described depth as the mode or style of spatial perception unique to a given culture and its basic preoccupations. The historian in question, Oswald Spengler, is a troublesome, mystical, antidemocratic, dogmatic thinker, yet impossible to not credit here, given that he described depth in the exact terms Merleau-Ponty would adopt not three decades later.

Spengler describes depth as "self-extension continued from the moving here to the moving there;" it is "not yet space" but rather the mode "through which the world becomes, through which perception extends itself to world."<sup>103</sup> And then, *"the idea of the three directions is an out-and-out abstraction* and is not contained in the immediate extension-feeling of the body (the "soul").<sup>104</sup> Finally, as we are by now quite familiar with Merleau-Ponty's insistence on depth as the "first dimension," it is interesting to discover it here in a similar form:

"From the moment of our awakening, the fateful and directed life appears in the phenomenal life as an experienced depth. Everything extends itself, but it is not yet "space," not something established in itself but a self-extension continued from the moving here to the moving there. World-experience is bound up with the essence of depth (i.e. far-ness or distance'). In the abstract system of mathematics, *depth is taken along with "length" and "breadth" as a "third" dimension; but in this trinity of elements of like order is misleading from the outset, for our impression of the spatial world these elements are unquestionably not equivalents, let alone homogeneous.... This discrimination between the "third" and the other two dimensions, so called, which needless to say is wholly alien to mathematics, is inherent in the opposition of the notions of sensation and contemplation. Extension into depth converts the former into the latter; in fact, <i>depth is the first and genuine dimension in the literal sense of the word.*"<sup>105</sup>

The obvious similarity in phrasing, implying the likely influence of the earlier on the later thinker, is perplexing, since their work has apparently so little in common. To be clear: I am not juxtaposing the (near identical) phrases in each thinker as if they meant the same thing in each case for they do not--though is well beyond my scope here to unpack the differences. I do wish to propose, in line with Spengler, that depth has to do with a mode of spatial awareness that is culturally specific or mediated. Notice that both thinkers associate depth with a sense of reality. Merleau-Ponty asks "what is depth, what is light, *ti to on*?"<sup>106</sup> Spengler does the same --depth is "a sign and symbol of life itself"<sup>107</sup>--but he qualifies this sense of reality as specific to a given culture. He takes a given culture's understanding and experience of

<sup>&</sup>lt;sup>103</sup> Spengler, *The Decline of the West, Vol. 1 Form and Actuality,* trans. C. Atkinson (London: George Allen & Unwin Ltd, 1926), 168, 179.

<sup>&</sup>lt;sup>104</sup> Spengler, 169. Similarly, Merleau-Ponty would write of "vertical and the horizontal, the near and the far" as "abstract designations for one single form of being in a situation" (PhP, 311).

<sup>&</sup>lt;sup>105</sup> Spengler, 158 [emphasis added].

<sup>&</sup>lt;sup>106</sup> EM, 178.

<sup>&</sup>lt;sup>107</sup> "For the involuntary and unqualified realization of depth, which dominates the consciousness with the force of an elemental event (simultaneously with the awakening of the inner life, marks the frontier between child and ... Man," continues Spengler (*Decline of the West*, 173).

space to be unique to it, impossible to fully or truly convey to anyone not in it. For instance, the Western fascination with empty, infinite space contrasts with the Greek insistence on limits, finite form, what is near and still and "saturated with beauty."<sup>108</sup> (The prime-symbol of the Classical soul is the material and individual body, that of the Western pure infinite space, for Spengler).<sup>109</sup> It is the western sensibility, too, that yearns for infinite distances: infinite space is "the creative interpretation of depth-experience proper and peculiar to us men of the West." For us westerners, this empty extension is "near equivalent to the divine himself," yet for the Greeks it was merely the "void."<sup>110</sup>

The ultimate import of depth is a question I can only raise here, not answer. For Merleau-Ponty, depth was indicative of an ontology of the flesh which places us in an irreplaceable existential situation. Did he rehabilitate Spengler, finding lasting and shared truths about embodied spatiality in this unlikely source? Or did Spengler give us a clue with his original grasp of the culturally specific, highly subjective experience of depth, such that it is inseparable from self-expression, linked to sense of destiny and agency, born of an individual's stance, within a given culture, towards some unrepeatable world?

<sup>&</sup>lt;sup>108</sup> Spengler, 106.

<sup>&</sup>lt;sup>109</sup> For the Greeks, holds Spengler, extension means body, limited, three dimensional forms, i.e., the "visible, measurable, and numerable" while for the West it means space, "pure, imperceptible, unlimited, space" (81).

<sup>&</sup>lt;sup>110</sup> Infinite space was "nothingness to the Greeks, the Universe to us," writes Spengler (180). He continues, "This very spatiality (Räumlichkeit) that is the truest and sublimest element in the aspect of our universe, that absorbs into itself and begets out of itself the substantiality of all things, Classical humanity (which knows no word for, and therefore has no idea of, space) with one accord cuts out as the nonentity, that which is not" (Spengler, 180-1).

### CHAPTER FOUR: QUESTIONING EGOCENTRICITY

### 4.1 Overview

In the previous chapter we saw that depth in the phenomenological sense is bound to a certain view of the subject: an incarnated consciousness, situated in a specific spatiotemporal situation, capable of motion and of synthesizing various perspectives at once, lured by the invisible aspects of things to attain a fuller viewpoint. This was opposed to a form of depth which I called axial depth, linked to visual depth perception (stereoscopy) and forward motion and associated with the dorso-ventral axis. Both models of depth arose from the philosophical predispositions and assumptions of their era.

To illustrate phenomenological depth, as opposed to objectifying modern depth, I contrasted the subject's actual experience of wandering a landscape with the mere perspectival representation of it. I also proposed that depth and landscape might ultimately be seen as related to a certain model of the subject: a point which I wish to elaborate upon in this chapter. In a similar vein, I would like to ask whether the subject's very egocentricity might be rooted in certain philosophical predispositions. For instance, it may be characteristic of the modern self, i.e. the basis of morality and knowledge and very condition for the world to appear as it does—i.e., a subject that has been separated from the world and then reinserted as its transcendental basis.

I do not mean to suggest that the egocentric frame of reference is an illusion or mere cultural construct, but rather to note that it appears quite differently across distinct contexts and cultures. It may be that egocentricity is neither absolute, nor constant nor, perhaps, our original mode of experience, but rather fluctuating, more or less dominant in certain modes or contexts? Perhaps, even, it is a mode of spatial understanding that only appears in certain modes, much as Sartre's transcendental ego that is only brought into being by reflection. What if we are also sometimes allocentric, open to other influences, momentarily forgetful of, or freed from, the belated acquired individual viewpoint? In other words, it is possible that we adopt a given sort of reference frame depending on, say, circumstances, cultural habits, and intentional states or modes of activity. An egocentric frame of reference might, once again, be conjured up by a given set of factors which are not always present.

Let me now introduce a few reasons to support the idea that egocentricity is not absolute, but rather depends on the mode of spatial experience and representation, which is also accompanied by a certain notion of the subject. I will list them briefly then go into more detail below. First, there is evidence of non-egocentric modes of spatial organization and navigation in other cultures. For instance, certain (non-western) cultures describe space, both proximal and distant, in terms of absolute or cardinal directions, with no recourse using the terms left and right, relative to the body.<sup>1</sup> They rely not on a sense of left and right in their orientation but rather on absolute directions in the environment.

<sup>&</sup>lt;sup>1</sup> See Steven C. Levinson, *Space in Language and Cognition* (Cambridge: Cambridge University Press, 2003); particularly section 3.2 "Conceptual Domains Underlying the Language of Space."
Second, we have seen indications in the Western tradition, in both psychology and philosophy, of states which are not fully egocentric. The degree to which we organize space egocentrically might well be related to the mode of representation we employ. As mentioned in the preceding chapter, Elisabeth Ströker spoke of a mode of spatial experience which is not, strictly speaking, oriented at all: "attuned space," which contrasts with the always oriented "space of action."<sup>2</sup> Moreover, Piaget argued that the perspectival viewpoint is acquired at later stages of development, even in cultures that are primarily egocentric. Recall that for Piaget, a child does not realize that its vision is perspectival; indeed it grasps even what is relative as "false or spurious absolutes."<sup>3</sup> Merleau-Ponty too will mention the child's happy ignorance that " all of us, himself included, are limited to one certain point of view of the world," in support of his claim that we are pre-personally grounded in a world prior to individuation.<sup>4</sup>

Third, varying degrees of egocentricity are hinted at in the competing phenomenological descriptions offered by Sartre and Merleau-Ponty of our encounters with the other in public space. Sartre describes how an encounter with another, in a shared public park, leads to the disintegration and decentralization of my spatial surroundings, and this due to the mere presence of the other's gaze. In response, Merleau-Ponty argues for the possibility of a shared world in which neither is the center, in which two egocentric subjects can find themselves in communication and in communion, grounded in a common world, prior to the emergence of individual viewpoint, that precedes and grounds our first person experience.<sup>5</sup>

From these indicators, one might argue that a certain view of the human subject underlies the notion of egocentric orientation as primary: namely, a view that implies an ego that is (at least partially) aware of itself and its role as the condition of possibility for the appearance of that reality within which it dwells. Once again, I am not suggesting that the egocentric frame of reference is an illusion or mere cultural construct. Rather, to suggest that it appears quite differently in different contexts, influenced by both cultural and personal factors, but rather depends on the mode of spatial experience and representation, which is also accompanied by a certain (western) notion of the subject.

## 4.2 Egocentric, Allocentric, and Absolute Spatial Representations

Imagine a society which does not rely principally on an egocentric frame of reference (here I refer to society, rather than individuals, because norms of spatial orientation are social and culturally determined, being embedded in common practices, including language). People who orient by *absolute* directions might tell you, if they wanted more room on the seat beside you, to move north a little bit; or they might refer to their leg as the north and south legs, not left and right. People giving you *allocentric* directions might tell you to go to the left or right bank of the river, or go around the back side of the mountain. In these cases, one's reference frame is not centered on one's body. It tends to be centered elsewhere, on some other object, or not centered on any particular point at all. It is possible to designate things not egocentrically, in terms of their relation to one's body (i.e., "on my left, behind me") or one's vantage point, but in

<sup>&</sup>lt;sup>2</sup> Ströker, 19-69.

<sup>&</sup>lt;sup>3</sup> Piaget, 209.

<sup>&</sup>lt;sup>4</sup> PhP, 413.

<sup>&</sup>lt;sup>5</sup> PhP, 418.

terms of their relations to *other things* (allocentric orientation) or to some overarching, unchanging direction or coordinates (absolute orientation). An intrinsic frame of reference assigns the coordinates of a thing around the thing's traits, i.e. its dimensions or functions.<sup>6</sup> An absolute frame of reference, on the other hand, transcends individual things. It is based on unchanging directions in the environment, much like our cardinal points system. Yet it can also be based on stable environmental elements, such as wind directions, river drainage, etc.

As Westerners, reliant upon a largely egocentric spatial reference system, it is difficult for us to imagine these alternatives. The closest we come to non-egocentric directionality is in our purely absolute dimension, the vertical, for here the "English up and down and German oben and unten, the verticality-based directionals are absolute, not relational terms."7 Many cultures do, however, rely on intrinsic and absolute orientation. Their languages have been extensively studied by linguists seeking to uncover these alternate ways of referring to place, orientation, and motion.<sup>8</sup> A certain Australian tribe, the Arrennte, does use the body-relative terms front and back, but lacks any words for left and right. Speakers of this language use cardinal directions in contexts where English speakers neither would nor could find the equivalents: even in "small-scale space and in localizing body parts," contexts where English speaker would not -and could not-to say for instance that the button is to the right of the door, or to ask someone to raise their southernmost hand.9 Another cultural group studied by the linguist David Wilkens, the Central Australian Pintupi, shows the degree to which spatial orientation and conventions can shape the human psyche. He discovered a deep relation of spatial orientation to storytelling, where space, not time, prevails as a mode of organization: "Orientation in space is a prime concern...Even their dreams are cast in a framework of spatial co-ordinates. It is impossible to listen to any narrative, whether it be historical, mythological, or contemporary, without constant reference to where events happened. In this sense, place provides the framework around which events coalesce. . . not temporal relation but geography is the great punctuator of Pintupi story telling."10 The relation of the Pintupi to space is difficult to imagine for us, for whom time, not space, is the structuring element of narratives, history, and daily life.<sup>11</sup>

In short, my suggestion is that western model of predominantly egocentric orientation might be the unusual one. What is it about us that makes us take egocentricity as a given, our centrality as inescapable? This discovery and then ongoing awareness and examination of our own perspective, has had an impact on philosophy, cosmology, ethics, art, that cannot be overstated. But what if we took a step back from this ingrained position... or rather, a step outside of it?

<sup>&</sup>lt;sup>6</sup> For instance, the side of the house with the door is the front, the widest face of a brick is the top, the front of the mirror is the side which reflects.

<sup>&</sup>lt;sup>7</sup> Eva Schultze-Berndt, "Sketch of a Jaminjung Grammar of Space" in *Grammars of Space, Explorations in Cognitive Diversity,* eds. S. C. Levinson and D. P. Wilkins (Cambridge: Cambridge University Press, 2006), p. 73.

<sup>&</sup>lt;sup>8</sup> Place affects identity: whereas we have different words for tree and stick, the Arrente call them by the same word, but refer to the former as "upright" tall and the latter as "lying long." See David Wilkens, "Towards and Arrente Grammar of Space," in *Grammars of Space*, 32.

<sup>&</sup>lt;sup>9</sup> Wilkens, 62.

<sup>&</sup>lt;sup>10</sup> Myers, F. cited in Wilkins, David P. "Towards an Arrente grammar of space." In *Grammars of Space: Explorations in Cognitive Diversity*, S.C. Levinson D.P. Wilkins, editor(s), (Cambridge: Cambridge University Press, 2006, p. 62, [emphasis added].

<sup>&</sup>lt;sup>11</sup> As an experiment, one might try to maintain, for a whole day, an awareness of north, or west. Difficult as this is, we have little trouble making estimates of the time of day. Are we that much more sharply attuned to time than space?

It is impossible, of course, to take on the mindset of a person who navigates absolutely, if we do not, in order to compare their mode of spatial apprehension with one's own. Indeed, even a full understanding of one's own orientation should not be taken for granted. For as I will explore below, different modes of spatial representation are available to us—different modes of lived space and different modes of sharing space with others—which influence our orientation and our egocentricity. In short, is it really so certain that we ourselves are always primarily egocentric with respect to space around us?

## 4.3 Modes of Spatial Experience: Attuned Space and Action Apace.

In the chapter on depth, I distinguished between axial depth, exemplified by modern philosophy (with its quest to explain visual perception of distance), and depth as a medium, prior to any one dimension or axis, characteristic of phenomenology. I suggested too that these forms of depth perception, axial and attuned, seem to correlate to certain modes of experiencing space and moreover to differences in bodily orientation—a suggestion I will now develop.

Elisabeth Ströker describes two modes of spatial experience, attuned space vs space of action. (Both are subsets of lived space.) In the mode of attuned space, as described by Ströker, "I am one with things and space."<sup>12</sup> I have "an immediate affinity with the world" and a "pre-reflective orientation to it."<sup>13</sup> That is, I do not relate to things as aims to be reached, or direction taken; instead I remain in a mode of "purposeless lingering" in which things around are experienced as a "closed unity of expression."<sup>14</sup> Things are present as "pure perceptual objects" and as bearers of expressiveness. <sup>15</sup> One's movements in this space are primarily expressive, not practical, and thus are not aimed at points in the outer world—as with dance, for instance.

Ströker furthermore holds that in attuned space, one does not have the same sense of oneself as a "here" in contradistinction to various "theres," for this separation is lacking in attuned space. Ströker envisions a mode in which I am not a spatial center at all: "as an attuned corporeity I am not without location, yet it is not through location that I am an attuned corporeity."<sup>16</sup> Because I am not oriented towards aims to achieve, and thus distances to bridge, I have "no thetic awareness of myself, no positional consciousness of my own body."<sup>17</sup> Instead, she assumes the possibility of an unreflective state free of, or perhaps prior to, the ordinary distinction between self and other, here and there—a distinction which arises, she holds, with reflection.<sup>18</sup> Things are not present to me at various distances, instead they appear with a nearness and remoteness that becomes a qualitative part of their character, such that changes in nearness affect the character of the thing.<sup>19</sup>

<sup>18</sup> In attuned space there is "no center of reference from which it would be possible to order and separate the experienced things and determine them as there in relation to a fixed here," she states (27). Moreover, in attuned space I have "no thetic awareness of myself, no positional consciousness of my own body" (32).

<sup>&</sup>lt;sup>12</sup> Ströker, 32.

<sup>&</sup>lt;sup>13</sup> Ströker, 20. The distinction between primary and secondary qualities does not exist, nor "properties"; instead things appear as having expressiveness and character (2-23). Sound also plays a major role (24).

<sup>&</sup>lt;sup>14</sup> Ströker, 28.

<sup>&</sup>lt;sup>15</sup> Ströker: 27, 28.

<sup>&</sup>lt;sup>16</sup> Ströker, 28.

<sup>&</sup>lt;sup>17</sup> Ströker, 32.

<sup>&</sup>lt;sup>19</sup> By contrast, the "distances" of action space can change without affecting the thing itself, being a mere measure separation from the thing.

Finally, in attuned space, my body is 'phenomenally unarticulated' i.e. torso and limbs are not distinct, as they will be in the space of action; instead, I move as an expressive whole.<sup>20</sup> One's movements of attuned space tend to be expressive and emotional, suited to a specific atmosphere (I move differently in cathedral versus a shop; dancing or painting versus driving a car). Space as an expressive form arises in tandem with my expressive gestures.<sup>21</sup> There is thus a twofold unity: that of the gesturing, expressive body, which is not experienced as distinct parts, and that between subject and surroundings.

What is striking is the unity of the body and its gestures, not perceived as parts but an expressive whole, and moreover one that has no separation from its surroundings. In this mode, which is admittedly fairly uncommon, one is not aware of having a localized position in space. There is no positional awareness of myself as I have not yet introduced reflection or action into my experience, thematizing my body and its location as such, both of which would bear upon my sense of location in opposition to my surroundings.<sup>22</sup>

The character of attuned space becomes clearer when compared to what Ströker calls the space of activity. Here, space is structured by one's projects; one is "oriented towards the world and strives towards aims." <sup>23</sup> Things and regions lie "ready to hand" for my purposes, not as expressive entities in themselves, and are situated in various distinct places "there", which are "all equivalent" as "places of something useful."<sup>24</sup> In contrast to attuned space, place is shaped by the utility of the things within it, not their expressiveness. The only place that is free from instrumentality is the body's "here", the point from which all other "theres" are determined.<sup>25</sup> The "here" is the "locus of the acting subject who, from his place, unfolds the space of action."<sup>26</sup> This is not to say the subject already has a reflective (thetic) sense of his location; for his primary orientation is "not to himself and his lived body but to the things"<sup>27</sup> A sense of one's location arises when the latter becomes problematic, *i.e.*, if I miss the bus I am running for, but not when I catch it.<sup>28</sup> Ströker's description of the inalienable "here" of my body, in the space of action, corresponds to Husserl's zero point of orientation. It is always with me, the center from which all things are measured, both their distances and directions as above or below me, to my left or right, etc.

My movements, which were expressive and non-compulsory in attuned space, now derive their sense from my aims. The three dimensions emerge as context for my practical aspirations: verticality has to do with upright positioning, weight bearing, balance; depth as the distance to my goals, etc. Accuracy of spatial relations to the outer world begins to

<sup>&</sup>lt;sup>20</sup> Ströker, 32, 62.

<sup>&</sup>lt;sup>21</sup> Ströker, 32.

<sup>&</sup>lt;sup>22</sup> Ströker, 32. She holds that "it is reflection that first places my body, with its mode and manner of intertwining with the world, back into the sphere of judgement" (32).

<sup>&</sup>lt;sup>23</sup> Ströker, 52. In the space of action, am "an acting being oriented toward the utilizability of things" (49).

<sup>&</sup>lt;sup>24</sup> Ströker, 57.

<sup>&</sup>lt;sup>25</sup> Ströker, 57. In attuned space, things were expressive entities that belonged to a particular place, essentially determined its character of space as a whole. In action space, the relation of place and thing (seen for its utility) is incidental; it is found "customarily," in its "usual" place (52).

<sup>&</sup>lt;sup>26</sup> Ströker, 58.

<sup>&</sup>lt;sup>27</sup> Ströker, 58.

<sup>&</sup>lt;sup>28</sup> Ströker holds that positional awareness comes to the fore only when my "typical modes of comportment" are disrupted, and my project is "annulled"; for instance, I see that my train has left from another platform while I am mistakenly waiting for it "here" (58).

matter, if we wish to reach our objectives, thus ongoing orientation is needed in the space of action (both positional and translational, i.e. immediate and more distant). The axes of the body become more pronounced: verticality for balance, frontal axis for forward motion, right and left for turning the right way. Thus the space of action is where my centrality to space, and the correlative orientation of space around me, both appear.

In summary, these modes of lived space show how the practical aims of the body, or lack thereof, might influence the sense of egocentric orientation. In attuned space, primarily expressive, I had not yet posited my body as a "point of reference for a relative determination of the position and the place of things."<sup>29</sup> In the space of action, I am always moved to achieve some practical purpose, thus I have a heightened sense of "here" vs "there," with the distances to things measured and reckoned into my motions. <sup>30</sup>

Finally, I propose that Ströker's account of attuned space and the space of action sheds some light on the distinction between axial depth (linear, forward) and phenomenological depth (a medium, unarticulated into three dimensions, the coexistence of the visible and invisible). For axial depth is always about a relation from me to the thing at a distance: visually something my eyes are focused on; but we can also see it as path and goal. If I am hiking up a mountain, driving along a road, I am attentive to the way ahead, the "there" I am aiming for (both physically and mentally). My consciousness is directed forward along with my body. My trajectory and movements are linear, extending forward and ever generated anew as I progress. Similarly, whenever I engage a particular task, or aim at a given object, my focus is singular, aimed directionally and axially at that thing. On the other hand, there comes a moment when I reach the top of the mountain and the path ends. Depth is no longer forward, because my motion and intentions no longer point forward; my destination is no longer "there," but "here." (Having arrived, I might declare I am finally "there.") Action yields to rest and contemplation. With my focus no longer directed at my goal, I can be more open to everything else; my attention is no longer oriented like a beam of light but is more like a lantern shining all around. In short, relinquishing one's practical orientation, turning to an expressive or aesthetic mode, changes my intentional stance towards the world. If there is no longer a need to monitor my position, to track or shift it, perhaps my awareness of my location recedes; perhaps even my sense of being a distinct separate subject gives way. Might the very boundary of the self, one's sense of distinct individuality, be susceptible to momentary suspension?<sup>31</sup> For while the ego and its centricity are the dominant mode of our spatiality, what if this dominance were linked to specific modes of spatial experience and representation-even to a particular, historically conditioned view of the subject? I shall explore these speculations in more detail below.

<sup>&</sup>lt;sup>29</sup> Ströker, 27.

<sup>&</sup>lt;sup>30</sup> One might even discern different modes of spatial experience—action and attuned—in Petrarch's account of his mountain climb, discussed in the previous chapter, and familiar to us all. While he winds his way up, Petrarch keeps the summit continually before him, both in his spatial reckonings and choices of route, and as his intentional focus. His gauges his own location always respect to the external goal. Once the top is reached, however, he pauses indefinitely, contemplating the whole scene in stillness. His climb takes place in the space of action, but once his aim is attained he suspends all his practical and immediate (i.e. worldly) relations and well-placed to shift in and out of attuned space. <sup>31</sup> See, for instance, Elias Canetti on the primitive and desire for an abolition of individual distinction and distance, even if momentary and illusory. *Crowds and Power (*Farrar, Straus and Giroux, 1984).

Ströker's descriptions of attuned space and the space of action clearly imply that certain features of lived space depend on our intentional states. Attuned space points to a mode of spatial experience prior to egocentricity and orientation. Her space of action shows how our purposeful activities give rise to a more distinct articulation of the three dimensions, with their axiality and unique qualities. In a related vein, it is not only our purpose and mood that affects our sense of orientation: for the presence (or absence) of others is paramount.

#### 4.4 Sartre and Merleau-Ponty in the Park and in the Landscape

I would now like to turn to a tale of two landscapes, and two confrontations within those landscapes. The first, which takes place in an urban park, is told by Sartre. The meeting between two persons is a vivid illustration of the egocentric viewpoint: in it, the narrator describes the center of his surroundings slipping away, his spatial world "disintegrated" by the very presence and gaze of the other. In response to Sartre's grim picture of encountering another in public space, a meeting in which Sartre feels his spatial world disintegrated by the mere presence of the Other's gaze, Merleau-Ponty eloquently argues for the possibility of a shared world in which neither is the center, in which the dynamic of egocentricity yields to an older and more basic mode, prior to the individuation of one's point of view.

Sartre borrowed (selectively) from Husserl's phenomenology, as is well known, to inform a system of his own, one shaped by a rift between constituting consciousness and material world, pure subject and pure object-- rift structured by factors that do not bridge but shape it, such as facticity by the presence of the other. Sartre's discussions of the Other contain some of his most vivid descriptions of lived space, yet they take the Other primarily as a threat to my egocentricity, a kind of pre-reflective decentering. Merleau-Ponty offers a more optimistic counterexample, that of two people sharing a view of a landscape, which points to a fundamental commonality grounded in an original pre-personal space, consciousnesses united via their bodies (flesh) to the world and thus each other. In the end, both Merleau-Ponty and Sartre open the door to a kind of original allocentrism, albeit in thoroughly diverging directions. The descriptions are on the one hand, a matter of temperament, but are of course also grounded in their respective ontologies. I will limit the discussion here to its implications for the egocentricity of the subject.

Sartre's answer to solipsism (the basis for egocentric space) is presented in the encounter with the Other, in which the Other's gaze immediately makes the other's subjectivity apparent -- not however via empathy. If I come across another person in a public park, proposes Sartre, I initially see a man situated on the same lawn, amid some benches, etc. Initially he appears as a physical object—like a bench, or a kind of marionette—and while this status holds, the spatial layout of my world remains unchanged.<sup>32</sup> Once the Other looks at me, however, etc., I perceive not objective distances (breadth between man and things around him) but rather things in relation to the man: instead of the "two terms of the distance being indifferent, interchangeable, and in a reciprocal relation, the distance is unfolded starting from the man whom I see and extending up to the lawn as the synthetic upsurge of a univocal relation."<sup>33</sup> As a result, the space of my world shifts to center around the Other, as there unfolds "a spatiality which is not my spatiality; for instead of a grouping

<sup>32</sup> J. P. Sartre, "The Look," Being and Nothingness, trans. H Barnes (New York: Simon and Schuster, 1992), 341 ff. Hereafter cited as BN.

<sup>&</sup>lt;sup>33</sup> BN, 342.

toward me of the objects, there is now an orientation which flees from me."34 Sartre speaks of the "disintegration" of "the relations which I apprehend between the objects of my universe;" for indeed they are no longer integrated by me.<sup>35</sup> Note that the presence of a "probable" Other is enough to cause this. The whole set of elements previously centered on myself becomes, with the appearance of the Other, simultaneously centered on the other, for me. The tension between centers is described as a "fixed sliding of the whole universe "and a "a decentralization of the world which undermines the centralization which I am simultaneously effecting."36 Along with the challenge to my solipsism comes a challenge too to my very centrality, or egocentricity, within space. The threat seems to target the self as the very center of orientation. Sartre variously reiterates how I experience this decentering of my spatial perception, induced by the other: "There is a total space which is grouped around the Other," and "this green turns toward the Other a face which escapes me."37 The threatening nature of the upsurge of the Other in my field of space is present in Sartre's language, for the Other is a "drain hole" in the world by which it is "perpetually flowing off," a presence that robs me of my world.<sup>38</sup> The Other is not just any object, but one who "has stolen the world from me."<sup>39</sup> My egocentricity is lost to the Other: "Everything is in place; everything still exists for me; but everything is traversed by an invisible flight and fixed in the direction of a new object."<sup>40</sup> In short, the Other's appearance, his co-centrality, throws off my spatial relations to the things of my world, and with it my very adaptation and habitation of my world. Spaces no longer have the same meaning for me, for they are also for the Other, and might become places where the Other pursues me, sees me, corners me, etc.

Merely to be seen is to grasp my own spatial relations differently, as the other is aware of my relations in a different way, catching me seated on a chair that is invisible to me, grasping me in terms of "other relations and other distances in the midst of other objects which similarly have for me a secret face."<sup>41</sup> I am newly aware of being an object in space, for "the Other's look confers spatiality upon me" even as I spatialize my world.<sup>42</sup>

Sartre's encounter with a stranger, in which each serves to dislocate the other, is caused by the split between subject (pure, transcendent, free) and object (the body, the thing, the target of the gaze). He thus finds little virtue in being seen, as such. It is as if the body is mainly a burden. Nor can he admit of any leeway between two extremes when it comes to space between myself and another. For him there is no depth, in terms of my nearness and farness to others around me; instead distance is both annihilated (by the overwhelming freedom of the Other who is everywhere, unmoored) and rendered wholly objective (by becoming a thing amid things under the Gaze). What ought to be experienced as depth, shared, both mine and the others, as the space between myself and the Other, is seen as a tug of war, where one or the other must remain at the center, the sole source from whom "distance is unfolded."<sup>43</sup> The Other's

- <sup>35</sup> BN, 342.
- <sup>36</sup> BN, 343.
- <sup>37</sup> BN, 343.
- <sup>38</sup> BN, 343.
- <sup>39</sup> BN, 343.
- <sup>40</sup> BN, 343.
- <sup>41</sup> BN, 353. <sup>42</sup> BN, 357.
- <sup>43</sup> BN, 343.

<sup>&</sup>lt;sup>34</sup> BN, 342.

gaze seems, for Sartre, even to eliminate depth; it is unmoored and too close. "As the Other constitutes me as at six yards from him, it is necessary that he be present to me without distance. Thus within the very experience of my distance from things and from the Other, I experience the distanceless presence of the Other to me," writes Sartre.<sup>44</sup> If Sartre's ontology could admit of depth at all, it would still be destroyed by the other, for the "Other's presence is both all-encompassing and the measure of all distances, which now belong to the Other."<sup>45</sup>

Still, Sartre has at least given us a model of allocentricity, one that is plausible but dismal. But clearly, being spatialized, seen, present to others, does not need to be so threatening. Why should I recoil at being grasped as "spatialising spatialised" or even seen? Even if some anonymous person has the power to disintegrate my spatial relations to my world, and my subjective hold on it, doesn't this same individual also have the potential to reshape my experience in a more positive sense?

Merleau-Ponty provides a happier model of sharing spaces and bodies with other persons. On his account, I am never a consciousness joined to an object/body; thus I am not a transcendence to be curtailed by the Other's gaze. I am flesh, body and mind at once, thus sutured to the world in various ways--by my sensibility, orientation, and responsiveness. My world (or rather, my spatial orientation to it) is not liable to the kind of disintegration Sartre describes, a disintegration triggered by the gaze of the other, which remains situated *outside the world*, from where it can judge me and reduce me to a mere object.<sup>46</sup> For Merleau-Ponty the act of vision is not the hostile act of a transcendent Other, nor a mysterious sign of a consciousness who exists solely in negation to the sheer materiality of being. Rather, the vision of my fellow man is emphatically within the world, grounded in a living body that is sutured to the world. Merleau-Ponty reminds us moreover that vision is a gift; that being rendered visible can also be a privilege. For instance, I can be recognized by another, or my typical expression captured by someone else's skill at drawing or painting.<sup>47</sup>

This same intertwining of body and world found in vision also describes the reciprocity of my orientation with respect to the Other. If the Other's presence fundamentally changes my situation, it also opens new possibilities. The other can witness a landscape with me, as Merleau-Ponty will eloquently describe, or leave a trail by which I find my way out of the woods, or take my photo with an expression I could never see, rendering me visible to myself.

That is, even if Sartre is right, that shared space with the Other does decenter me, challenging or even upending my egocentricity, is this necessarily a bad thing? Is there not a way in which the presence of the other enables me to escape my own private viewpoint such that the world becomes a shared one? Instead of the Other's gaze making me an object, might it not merge with my own in appreciation of a common world, or turn upon me to illuminate some aspect of myself? For Merleau-Ponty, the battle between cogitos (clearly a reference to Sartre) emerges only on a more original foundation, a more "peaceful coexistence" within a "single self-evident world", typical of children and prior to any sense

<sup>&</sup>lt;sup>44</sup> BN, 343.

<sup>&</sup>lt;sup>45</sup> BN, 360.

<sup>&</sup>lt;sup>46</sup> In Sartre the Other's gaze is not situated within the physical world; it transcends it so as to better judge, prohibit, and restrict me; it throws off my own spatial relations to my surroundings and the ways I might inhabit the latter. "As a look-looking he definitely does not belong to the world" (364).

<sup>&</sup>lt;sup>47</sup> A painter captures the "lighting, shadows, reflections, color" which are not real objects but like ghosts, have only visual existence; yet "suddenly cause something to be and to be this thing" (EM, 166).

of having an individual perspective.<sup>48</sup> I shall return to this point, but first let me turn with Merleau-Ponty's counterexample to Sartre's park encounter.

Imagine looking at a landscape with someone else, whom in Merleau-Ponty's case is his friend Paul. For Merleau-Ponty we are not "incarcerated in our separate perspectives", nor do I feel "shut up within my own sensations."<sup>49</sup> I do not recast the Other and his relations to the world in relation to my own egocentric null point; for we are together, "jointly present" in a landscape that is "the same for both of us" <sup>50</sup> My friend and I communicate with each other, sharing our impressions of a given scene via language, gesture, etc., aware via an evident similarity in our behavior that we are sharing an experience of the same world. This shared world is neither for me, organized around me, nor for and organized around the other (in my view); rather, as Merleau-Ponty says, "I enjoy possession of the landscape itself, and the landscape for Paul as well as for me."<sup>51</sup> Nor I do not have to *infer* my friend's state of consciousness based on external cues. "My friend Paul and I point out to each other certain details of the landscape; and Paul's finger, which is pointing out the church tower, is not a finger-for-me that I think of as orientated towards a church-tower-for-me, it is Paul's finger which itself shows me the tower that Paul sees...."<sup>52</sup> We influence each other, learn from each other, for as Merleau-Ponty writes, "my gestures invade Paul's world and guide his gaze." <sup>53</sup> And it is by means of this shared world, language, and history that I can communicate with the other, Merleau-Ponty reminds us. (And it is only when such communication is utterly lacking that we feel the eye of the Other as Sartre's objectifying gaze, notes Merleau-Ponty.<sup>54</sup>

The other and I reciprocally influence and enrich the other's experience, both in our interexchange and in our similar responses to things. I find "in that other body a miraculous prolongation of my own intentions, a familiar way of dealing with the world.<sup>55</sup> The other is here no alternate center who undermines my centrality, who causes my own spatial world to collapse; he or she is an outpost of my own self. In the other's manner, I find an often reassuring confirmation of my experience. We may be both mesmerized by the evening sky; yet the other paints in slightly different hues or forms; and this the near but not perfect alignment of our responses sustains our ongoing dialogue and sense of unity.

Importantly, Merleau-Ponty challenges the very primacy of individual perspective as mode restricting us each to our own experience. For one thing, my perspective does not isolate me. Moreover, is it the only mode available to me.<sup>56</sup> On the first point, our varied perspectives merge: "Our perspective views are not independent of each other; we know that

<sup>55</sup> PhP, 412. And though I might not behave the same, indeed, often I would not, the other's particular response broadens my sense of the possible, it might expand my imagination or inspire me, it might clarify what I find unacceptable, add to what I hold dear or must resist, etc. <sup>56</sup> PhP, 414.

<sup>&</sup>lt;sup>48</sup> PhP, 415.

<sup>&</sup>lt;sup>49</sup> PhP, 471.

<sup>&</sup>lt;sup>50</sup> PhP, 472.

<sup>&</sup>lt;sup>51</sup> PhP, 472.

<sup>&</sup>lt;sup>52</sup> PhP, 471. I do not, in other words, experience my friend as "flow of private sensations indirectly related to mine through the medium of interposed signs", as would be the case if I had to infer his consciousness through external cues. Rather, his behavior is immediately legible to me, as "someone who has a living experience of the same world as mine, as well as the same history" (PhP, 472).

<sup>&</sup>lt;sup>53</sup> PhP, 472.

<sup>&</sup>lt;sup>54</sup> PhP, 421.

they slip into each other and are brought together finally in the thing," he insists.<sup>57</sup> My perspective on the world is brought together with my companion's, and each of our viewpoints is extended by the others, converging at last in "the one single world in which we all participate as anonymous subjects of perception."<sup>58</sup> Our perspectives are felt to converge, and they divide us less sharply.

This same episode highlights the fact that perspectival vision is *not* necessarily original to us, according to Merleau-Ponty, for he goes on to explicit discuss Piaget's theory of spatial development. For in our original sense of reality, we are not isolated viewpoints; our pre-personal experience of the world (as children), prior to any awareness of individual perspective. As children, we have pre-personal experience of the world prior to any awareness of individual perspective. A child not yet privy to perspective and Euclidean frameworks "lives in a world which he unhesitatingly believes accessible to all around him;: in other words, she or he "has no knowledge of points of view. For him men are empty heads turned towards one single, self-evident world where everything takes place, even dreams..."<sup>59</sup> The awareness of perspective emerges with maturity, he reminds us. This point is important insofar as it challenges, I submit, the very notion of egocentricity as our fundamental state. For Merleau-Ponty, we are originally grounded in a reality that is (chronologically, at least) prior to any awareness of our own individual viewpoint development. This early, original manner of grasping space does not entirely fade, and so the "mature" understanding of the adult remains always grounded in a pre-personal, that is, pre-perspectival mode of apprehending space, which has its own significant merits.

The relevant passage regarding the child's discovery of the viewpoint merits quoting in full:

"At this stage, it is held, he discovers himself both as a point of view on the world and also as called upon to transcend that point of view, and to construct an objectivity at the level of judgement. Piaget brings the child to a mature outlook as if the thoughts of the adult were self-sufficient and disposed of all contradictions. But, in reality, it must be the case that the child's outlook is in some way vindicated against the adult's and against Piaget, and that the unsophisticated thinking of our earliest years remains as an indispensable acquisition underlying that of maturity, if there is to be for the adult one single intersubjective world. <sup>60</sup>

The pre-personal, pre-objective world is thus, for Merleau-Ponty, the basis for the shared, objective world; the lack of individuation is prior to the confrontation between separate consciousnesses. The egocentric and opposed *cogitos* of Sartre and those before him all must "necessarily have some common ground and be mindful of their peaceful co-existence in the world of childhood," concludes Merleau-Ponty.<sup>61</sup> In short, we are similarly situated, similarly pre-personally and physically oriented to the world, a commonality evident through our behavior in similar situations.

Furthermore, the real presence and of others, and trace of them, are always already in the world, as artifacts, language, dwellings, paths, tools, artworks, etc.—objects "moulded to human action," used by "someone," and thus a

<sup>&</sup>lt;sup>57</sup> PhP, 411.

<sup>&</sup>lt;sup>58</sup> PhP, 411.

<sup>&</sup>lt;sup>59</sup> PhP, 413.

<sup>60</sup> PhP, 414.

<sup>&</sup>lt;sup>61</sup> PhP, 414..The complete passage: "With the cogito begins that struggle between consciousnesses, each one of which, as Hegel says, seeks the death of the other. For the struggle ever to begin, and for each consciousness to be capable of suspecting the alien presences which it negates, all must necessarily have some common ground and be mindful of their peaceful co-existence in the world of childhood."

cultural world.<sup>62</sup> Chief among these "cultural artifacts" is the body of the Other.<sup>63</sup> That is, the Other's behavior in a given situation is not only legible to me, it sheds light on my world, supplementing my viewpoint with those others, such that my gaze converges with those of my fellows upon a common realm.<sup>64</sup>

Let me conclude by taking seriously the implications of Merleau-Ponty's claim that our experience is neither original nor exclusively perspectival, thus originally egocentric. Might we entertain the idea that the egocentric viewpoint is a mode of being that is not absolute, but perhaps fluctuating, fading in in a state of attunement or expressive activity? Perhaps it is open to other influences, or already oriented to something other than itself, such as the Other, or the earth? One might even ask, what if the egocentric, perspectival view is, like Sartre's transcendental ego, is only there when we slip into awareness of it? Or, to ask a different but related question, what kind of subject is implied by egocentricity?

# 4.5 The Standpoint of the Modern Subject, according to Heidegger

The subject in modernity stands not so much within nature as over and against it; the world's appearance is conditioned through the perceptive and cognitive contributions of human consciousness. After Kant, the human being has become the individual and subjective ground of experience; whatever is cannot be separated from how it appears to consciousness. We are figuratively taken out of nature only to be reinserted as its self-conscious condition of the latter's possibility.<sup>65</sup> The resulting centrality of the subject is both figurative and literal, spatial and epistemological.

The question of the modern subject's relation to being as such is undertaken by Heidegger in "The Age of the World Picture," where he asks about the "essence of modernity."<sup>66</sup> It is not to be found in man's new individuality and subjectivity alone; rather, it is the very turning of man, for the first time, into the "primary and genuine subjectum."<sup>67</sup>

In other words, man becomes "that being upon which every being, in its way of being and its truth, is founded.... the referential center of being as such." <sup>68</sup> Being is no longer grasped in terms of creation, as in the medieval era, but insofar as it is represented, i.e. insofar as it appears to a subject. Being grasped as object, by the subject, is now the criteria of being. In this way the world becomes a "picture," Heidegger continues, and being is recast as representation, contends Heidegger. <sup>69</sup> By representation, he means "to put forth and relate to oneself. It is through this that a being comes to stand as an object and so first receives the seal of being; that the world becomes picture is one and the same process whereby, in the midst of beings, man becomes subject." <sup>70</sup> (Humans take up this position intentionally as the proper role of man, which tends to lead to the manipulation, mastery and use of the world rendered objective. The more the world is grasped as "objective"—as "conquered" and "at man's disposal"—the more the more humanity feels its

<sup>62</sup> PhP, 405.

<sup>&</sup>lt;sup>63</sup> PhP, 406.

<sup>&</sup>lt;sup>64</sup> PhP, 411.

<sup>&</sup>lt;sup>65</sup> This Kantian view of rationality was countered by Romanticism, i.e. the subject in harmony with nature; yet the end result is still individualism, argues Charles Taylor, for the romantic subject seeks the realization of inner potential--recasting it as personal expressiveness--and thus each pursues "new and fuller individuation." See Charles Taylor, *Sources of the Self*, (Cambridge" Harvard University Press, 1989), 383-6.

<sup>&</sup>lt;sup>66</sup> Heidegger, "The Age of the World Picture," in Off the Beaten Track, 66. Hereafter cited as WP.

<sup>&</sup>lt;sup>67</sup> WP, 66

<sup>&</sup>lt;sup>68</sup> WP, 67.

<sup>&</sup>lt;sup>69</sup> WP, 68.

<sup>&</sup>lt;sup>70</sup> WP, 69.

subjectivity in opposition.<sup>71</sup> Thus do I become the egocentric source and apparent center of reality. By contrast, the "essence of humanity" for the Greeks was "*to be looked at by beings*, to be included and maintained and so supported by their openness, to be driven about by their conflict and marked by their dividedness...."<sup>72</sup>

It is not only in philosophy that the paradigm of representation is found. The modern subject's altered stance towards the world was appropriately reflected in the dominant artistic trends of the era, according to Charles Taylor in *Sources of the Self.* Renaissance perspective explicitly thematized the spatial relation between object and viewer (and painter/creator), holds Taylor, with the effect of creating "a new distance and separation from the object, a sense of standing over against and no longer being englobed by what is depicted." <sup>73</sup> Perspective gave the onlooker "a determinate point of view" as well as a heightened self-awareness, ultimately preparing the emergence of modern identity.<sup>74</sup>

### 4.6 Conclusion: Things Looking Back

The modern subject is one that has become self-aware of his position and contribution to appearances. We moderns are the representing subjects standing over and against the objective, represented world, according to Heidegger. For us the world has become a "picture," though one in which we are included and aware of our position. Both modern philosophy and phenomenology hold first person consciousness to be the ground of all knowledge and experience. Is this modern subject the forerunner of, or even the prerequisite to, the egocentrically oriented lived body uncovered by phenomenology?

Yet phenomenology emphasizes the unity of mind and body, sees the subject as an incarnate consciousness that is always already in the world. If the body's orientation in phenomenology remains egocentric, might this egocentricity be conceived differently from that which is implied in Heidegger's description of the modern representational subject? For Merleau-Ponty's approach to the lived body moreover seems to adamantly return the subject back into the world, dissolving it amid the flesh of the world that it also shares. Yet even so, does the subject given embodiment, rendered as incarnated flesh, fully escape the paradigm of "the picture" that Heidegger described? For the embodied subject is still, in its experience of depth, the central point of reference for all objects around; it is still the apparent center of the world. Such a question deserves to be more fully pondered elsewhere; here I will venture a thought at why Merleau-Ponty's depth is both a feature of egocentricity and, perhaps, a way out of it.

<sup>&</sup>lt;sup>71</sup> WP, 70 [emphasis added].The passage continues "...all the more subjectively, i.e. peremptorily, does the *subjectum* rise up, and all the more inexorably, too, do observations and teachings about the world transform themselves into a doctrine of man, into an anthropology. No wonder that humanism first arises where the world first becomes a picture." (WP, 70)

<sup>&</sup>lt;sup>72</sup> WP, 68. Heidegger's notion that the Greeks, by contrast, were "looked at by beings" must certainly have been taken up by Merleau-Ponty, who will later put forth the idea of reciprocity in vision; of our being looked at by things (in Eye and Mind). For the eye cannot see unless it is itself embodied, thus visible. Merleau-Ponty's account of depth and vision seems designed to both acknowledge and transform the modern subject as articulated by Heidegger: we are no longer the subject regarding objects, or constituting them, standing over and against them. We are rather amid them, of the same stuff as them, intertwined with being, with things looking back at us.

<sup>&</sup>lt;sup>73</sup> Taylor, 200.

<sup>&</sup>lt;sup>74</sup> Taylor, 202.

Perhaps it is because our modern subjectivity and individuality is so tenacious and deeply rooted that Merleau-Ponty drew upon the imagery and models that we know best, i.e., tropes that reinforce these tendencies, while also slightly altering them, thus hinting at how we might rethink our relation to space and place. He reminds us to attend to those experiences which arise from being embodied, experiences which cannot be represented, or fully constituted by reflection, and which thus throw us back onto the original mysteries of being. In his poignant descriptions of depth, for instance, our own individuality is suspended: "What I call depth is either nothing, or else it is my participation in a Being without restriction, first and foremost a participation in the being of space beyond every particular point of view."<sup>75</sup>

Vision too, is the paradigmatic sense and ability of the quintessential modern subject, closely associated with detached rationality. For Merleau-Ponty, however, vision is a sense by which we can reconfigure our relation to things, render our relation reciprocal. Heidegger's claim, above, that the Greeks were "looked at by beings" must certainly have struck Merleau-Ponty, for the latter later introduces, in "Eye and Mind," the notion of reciprocal and even "reversed" vision—mentioning the painter's sense of being looked at by things.<sup>76</sup>

Merleau-Ponty's account of depth and vision seems to both acknowledge and transform the modern subject as articulated by Heidegger. In pre-objective space, immersed in depth, we are no longer the subject regarding objects, or constituting them, standing over and against them. We are rather amid them, of the same stuff as them, intertwined with being, with things looking back at us.<sup>77</sup> By returning to the incarnated experience of the individual, the affective, existential experience of pre-objective space, we relinquish the promise of detachment and omniscience and objectivity. But what is gained in return is, "not a representation of the world but the world itself."<sup>78</sup>

<sup>&</sup>lt;sup>75</sup> The full passage runs, "Inevitably the roles between him and the visible are reversed. That is why so many painters have said things look at them." (EM, 173).

<sup>&</sup>lt;sup>76</sup> EM, 167.

<sup>&</sup>lt;sup>77</sup> Is depth automatically entailed by egocentricity? Can we have one without the other, or are they in fact different words for the same state? Depth begins with the subject, indeed, but in Merleau-Ponty's description it seems like the prelude to a yielding up one's position as dominant center: immersed in depth, we seem always about to slip into the pre-personal, the allocentric, the attuned, the orientation that has two poles; and to let these center alternate or fluctuate between self and others, i.e. through "things looking back at us," by the intertwining and reciprocity of my flesh and the world's, etc. <sup>78</sup> Merleau-Ponty, *Signs*, 163.

# CHAPTER FIVE: VERTICALITY

### 5.0 Overview

In this chapter, I will examine the vertical, both as embodied and as a direction in the world. All terrestrial entities must rise up the ground and hold their own against gravity, whether they be animate or inert. Since it structures the whole material realm, without being material in itself, the vertical is an intangible norm, an ideal that is everywhere manifest.

Humans embody the vertical in our posture, as the only animal to have evolved a permanent upright stance. Yet of the three bodily axes, the vertical is the only one not carried with us. It exists independently of us; the body finds its orientation with respect to it. The vertical dimension arises where the body converges with and finds anchor in the world. In any given setting, this connection between the body and the world is established on a preconscious level, using both vestibular and visual information. Thus by gearing to the vertical we find a sort of existential foothold at the bodily level.

In Chapter One, we saw that the body's sense of orientation to the vertical dimension is neither subjective nor objective; it is a relation established between the body and its surroundings. Orientation is a relation with two poles, and if one or the other is missing, the relation collapses. The vertical of lived space is a relation between body and world. One pole is the lived body, with its upright posture and its sensitivity for the vertical dimension, and the other pole is the world already configured by gravity's ubiquitous pull. Our experience of the vertical, having two poles, can be seen from either aspect. We can approach it from the side of the body, or from the side of the world.

I will therefore devote the first part of this chapter to the vertical experienced by the body, and the second part to the vertical in the world. The themes emerging in each are thus quite different, but nevertheless relate and overlap. First, before going deeper into each aspect, let me be a little more precise about what I mean by each one.

#### 5.0.1 The Vertical from the Side of the Body (Subjective Verticality)

The vertical direction is starkly asymmetrical for us, since we can never move upwards except through effort-- but we can easily fall downwards. Our resulting experience of the up and down axis is so potent that it has infiltrated our religious imagery, social metaphors, and our very language, as I shall explore. We have a natural sense of the vertical and automatically, unconsciously align to it, seeking to remain upright, which takes effort.

Adopting the upright posture fundamentally changed the human body, both in form and behavior. The upright stance elevated the head, furthered the view, freed the arms, and altered the relation to the ground. The ramifications of evolving a vertical posture is reflected in various non-physical dimensions of human life, including psychological, religious and moral ones. Aligned with gravity in our anatomy, we are internally aware of the direction and pull of the

<sup>&</sup>lt;sup>1</sup> Rudolph Arnheim, The Dynamics of Architectural Form (Berkeley, University of California Press, 1977), 35.

vertical, that is, of gravity, anytime we climb or descend, anything we lift an object. This ever-present effort, whether in regard to our bodies or to external loads we bear, means the vertical is the dimension defined by heaviness, as well as its opposite, lightness. Movement upwards or downwards shows up as a frequent trope with strong value-laden connotations in our language. Uprightness is a metaphor for a virtuous and principled character, standing alone for independence or convictions. On the other hand, "fallen" is a paradigmatic term for the loss of virtuous character.

Rising and falling have emotional connotations and appear frequently in our dreams. The fantasy of weightlessness is reflected in our ascription of lightness to divine beings, in the myth of Icarus, and in many forms of artistic expressions, from painting to dance to architecture. Plato's envisioned humans as suspended from above, kept upright by the tethering of our souls to a divine reality in heaven. Most religions persist in a similar image, insofar as the soul is thought to ascend after death while the body is relegated to the earth.

The vertical is unique among the three axes. On the one hand it is an axis running along our bodies, like the front/back and right/left axes. (There is also a vertical to our visual field, in addition to that of our whole body). But verticality also exists independently of us, out in the world, as a perceived dimension to which we unconsciously align. Obviously we can shift our body's own vertical axis any way we like: we lean and bend over, lie down, etc. But in such cases, we still think of up as skyward and down as earthwards. This is the crucial difference between the vertical and other dimensions, with various ramifications, as we shall explore below. And while it is true that other objective axes do exist, in the form of the cardinal directions, still these are not experienced with the same inevitability and immediately as the sense of up and down. The vertical transcends us. It is, in a certain sense, absolute.<sup>2</sup>

#### 5.0.2 The Vertical from the Side of the World (Objective Verticality)

The vertical axis aligns with the earth itself. Since it is the axis along which things all rise and fall, balance or collapse, we see evidence of its action and influence everywhere. Forests and gardens grow upwards towards light; buildings and walls must stand straight to stand at all, rain falls while fire and smoke ascends. The brute material world is imbued with the vertical everywhere, from the peaks of mountains to the hanging of a curtain. Whatever cannot balance its own weight around an axis will topple.

Of all the dimensions, the vertical is the paradigmatic image of what is fixed and stable. Heavy and light objects settle into their "natural places" above and below. Stones piled into mountains or towers can stand for thousands of years, forming enduring landmarks. The vertical axis is everywhere precisely perpendicular to the ideal horizontal of the ground plane. Yet the earth constantly turns, and its tallest landmarks with it. Seen from afar, these vertical lines of gravitational force are not parallel but radiate like these spokes of a wheel. Yet even though the earth is a round spinning thing whose verticals are not really parallel, we still experience it, from a lived perspective, just as our geocentric ancestors did, as an absolutely stable ground for what lies below and above.

The seeming stability and permanence, the very geometric purity of the vertical, which any plumb line or falling

<sup>&</sup>lt;sup>2</sup> By this, I refer to two aspects of the vertical: it is the same in all frames of reference (egocentric, allocentric, absolute) and also that it remains an ideal and universal dimension—albeit in a qualified sense that I will explore below).

object traces anew in the air, is because the earth "does not move" in our experience. The earth itself is beyond motion and rest, argued Husserl in *The Origins of the Spatiality of Nature*. Rather, it makes motion and rest possible, serving as our ultimate reference point for them. A given vertical axis visibly marks a permanent, steady location because the earth as a whole does not move with respect to us who dwell upon it. We might then see the horizontal ground plane and vertical as a kind of phenomenological "absolute."

From the viewpoint of beings on the ground, the vertical axis has one end that terminates in the stars while the other plunges deep in the earth. It thus passes through the heavens, the earthly plane and the underworld, linking them all, and serving as a kind of *axis mundi*, axis of the world. So suggestive was the symbolic power of this form that it came to appear, in various religions and myths, as mediating between different levels of existence. <sup>3</sup> It traverses regions belonging to a different cosmic order and starkly opposed in character. At the upper end, the vertical axis stretches into the sky, luminous and spacious, where the movements of celestial bodies constitute the rhythms of time itself. Countless religions have regarded the sky as the locus of divinities; many too see it as the origin and final destination of human souls. At the other end of the axis, the lower regions bear the opposite connotations. Whereas the sky harbors entities seemingly free of materiality, the deep earth, by contrast, holds all that is buried, and all that has fallen and come to rest. In the medieval mind, this realm was the infernal realm of beings condemned. Even now, we still associate the subterranean zone with burial and waste, on a physical level, and with subconscious or repressed material or thoughts, on a psychic one.

The vertical axis mundi, originally grounded in a religious world view, remains an intriguing image even without the premise of extramundane realities. Vertical landmarks can be said to orient and shape space on an existential level, marking significant centers in both public and private realms. A kind of axis mundi can be seen to figure into our world at many scales, from domestic to urban to geological to cosmic. The attic of a house, the church steeple, the pathway up a mountain, the voyage to the stars, all partake in the sense of ascension and even transcendence that is implied in the vertical. Conversely, to follow the axis downward has different connotations: to discover what is hidden deep below the surface means leaving the surface to confront the hidden and hard to fathom.

The symbolism of the vertical might have lost its cosmic underpinnings, but I would like to argue that traces of deep associations still reside within these dimensions. For the human experience of terrestrial space, of being embodied and moving in the world, is shared, fundamental and, in many ways, unchanged. This constancy of our spatial condition means we might still be able to speak, as Karsten Harries first proposed, of a natural symbolism to the vertical and horizontal dimensions. It is from this natural symbolism that the variety of specific historical conventions and forms draw their meaning, claims Harries.<sup>4</sup> In the same line of thinking, I suggest here is that the vertical axis, though it may not literally link different cosmic realms, harbors meanings which still echoes in our imagination and our dreams, our

<sup>&</sup>lt;sup>3</sup> Norberg-Schultz, evidently influenced by the form of religious architecture through the ages, as well as Mircea Eliade's idea of the axis mundi, concluded that "the vertical ...has always been considered the *sacred* dimension of space." (*Existence, Space & Architecture*, (New York: Praeger Publishers, 1971), 21.

<sup>&</sup>lt;sup>4</sup> Harries writes, "this natural language intertwines with conventional symbols...the conventional symbol presupposes and builds on a natural symbol." See *The Ethical Function of Architecture* (Cambridge, MIT Press, 1977), 131.

poetry and painting, art and architecture and art. To these images and places, our embodied spirits still respond. Let me now return to the body's verticality, exploring how it appears in itself, in Part I, and then considering how it relates to the verticality of the world, in Part II.

## 5.1 Part I: The Vertical and the Body

Though we see the vertical all around us, we only ever sense it within our individual bodies. Everywhere else, outside of me, it is a visually perceived phenomenon. Internally, we feel it internally as the balancing of our weight, the proper shifting of our movements to remain upright, and in the pressure of our bodies against whatever is below them. We are acutely sensitive to our position vis-a-vis the vertical of the world. The vertical is felt in the body in such a way that the body acts as a kind of spirit level for both itself and things around it. We do not have to think when we stand tall and find our balance, or when we straighten a picture. We instinctively feel which way is up, though at times it requires attention. We also sense, without thinking, when things around us are oriented along the upright axis. Our body is the first gauge of the uprightness of any construction or edifice we may build, whether it be a pile of blocks or a city. The merging of the visual field and the bodily fields determines our sense of vertical orientation, as we shall see below.

The body is inclined to find a vertical axis in any setting, "anchoring" to a "levels" as Merleau-Ponty described it, was demonstrated in experimental settings where the visual and kinesthetic fields were artificially set in opposition(see Chapter One).<sup>5</sup> Yet as Edward Casey points out that while Merleau-Ponty described how that the body "gears" itself to the world through a relation that is neither fully objective nor subjective, he did not yet link this anchoring to the upright human posture. "Although Merleau-Ponty is the first philosopher to recognize the importance of spatial level, nowhere does he indicate precisely what the bodily basis might be. This basis is found in the upright posture of human beings. Without such a posture, which represents the basic gesture of our body as it stands or walks on earth, it is difficult to explain just why verticality has such immense significance in orienting us in the world"<sup>6</sup> (On the other hand, it is clear that all animals possess a standard posture, (one optimally aligned to gravity) and thus they also anchor to levels, that is, orient themselves with visual and gravitational clues. So uprightness in this context should be taken to include any posture that has a normal verticality, including creatures, with four legs, or more, or none.) In short, anchoring presumes a *normal* stance, i.e., suited to optimal functioning, that is oriented to the vertical. (In the human case, the normal "upright" stance is bipedal, and it is in this bipedal sense that I will subsequently use the term.)

Our vertically oriented, upright bodies are the means by which we perceive not only our own alignment to the outside world, but also the alignment of other things, such as whether a picture is hanging straight upon a wall. In other words, the body serves as a kind of spirit level that not only registers its own verticality but also serves as a benchmark for detecting whether other things are properly vertical.<sup>7</sup> Thus the vertical is the dimension where the body is most

<sup>&</sup>lt;sup>5</sup> As mentioned in Chapter One, a change in the visual or vestibular input will disorient the subject's sense of the vertical, momentarily, until a new level is established. Regarding the second aspect, the body's alignment with a given vertical is influenced by its weight, that is, the pull of gravity; for the vestibular system relies on it the inner ear and other bodily sensors to sense the gravito-inertial force (GIF) vector.

<sup>&</sup>lt;sup>6</sup> Casey, Getting Back Into Place, 80.

<sup>&</sup>lt;sup>7</sup> Schöne, 25.

deeply intertwined with the surrounding world, both via the gravitational field and by orienting (visually) to things around us. The other dimensions, forward back and left right, have no equivalent inner structures that register our relation (of balance or lack thereof) to the outer world. The vertical has to do with our alignment and thus our sense of balance and stability; it governs our fundamental orientation to the ground. Perhaps for these reasons, it is particularly laden with emotional, aesthetic associations, as well as spiritual and even moral ones.

What follows is a brief survey of thinkers who have explored these various associations. Chosen for their specific and concise formulation of a given aspect of verticality, they are drawn from phenomenology and philosophy, cognitive science, aesthetics. German-born philosopher Erwin Straus took a phenomenological approach to the body's verticality in his articles "The Upright Posture" and "Born to See, Bound to Behold"8 He speculates on how our evolution into upright creatures might have affected, inter alia, our relation to the ground, our stance towards others, how we use our hands, even the human gaze. Uprightness in a more metaphorical sense, as a trope for good character, was explored by George Lakoff and Mark Johnson, who identify the many ways the sense of uprightness appears in our very language.<sup>9</sup> They demonstrate, furthermore, that our upright stance is inseparable from a sense of rising and falling, and all the fears associated therewith. Rising and falling are states found in our ordinary experience, yet they figure strongly, perhaps even more so, in both imagination and dreams. Merleau-Ponty went so far as to call the vertical a "direction of our existence;" the sense of ascent and descent is always with us, he claimed, latent in our dreams and subconscious, linked to our deepest longings and fears.<sup>10</sup> The vertical thus forms a basic feature of existential space, and pervades every aspect of our moods, myths, dreams and art. That humanity is both fascinated and haunted by this sense of rising and falling is by its nature is evident in many ways; we gain nothing by trying to force this facet of existence into the guise of objective fact; rather I hope simply to describe it indirectly with examples from art, architecture, and philosophy. To this end, I will close Part I, the section on the vertical and the body, with Georg Simmel's thoughts on the aesthetics of weight bearing in the human figure, namely, how humans are shown to be shaped, both in their stance and in their character, by the weight they carry-showing grace, dignity, or inadequacy.

After having completed this lengthy exploration of individual human body in relations to the vertical, in Part I, we will take a similar approach to the vertical in the world, that is, the vertical in our external, objective surrounding, showing particular ways the vertical has been configured, in the material world, and conceptualized, in reflection, to reflect that existential import that Merleau-Ponty rightly attributed to it. Let us now return to the beginning, however, to that most fundamental level of the body in relation to the vertical: the basic human upright stance.

<sup>&</sup>lt;sup>8</sup> See Erwin Straus, "The Upright Posture," *Psychiatric Quarterly*, Vol 26 (1952): 529–61, Reprinted in *Phenomenological Psychology: The Selected Papers of Erwin W. Strauss*, 137-65. New York, Garland, 1980. See also Erwin Straus, "Born to See, Bound to Behold: Reflections on the function of the upright posture in the aesthetic attitude," *Tijdschrift Voor Filosofie* 27/4 (Leuven: Peeters, 1965), 659–688. Reprinted in *Philosophy of the Body: Rejections of Cartesian Dualism*. Ed. S Spicker, (Chicago: Quadrangle Books, 1970), 334-361. Hereafter cited as UP and BTS, respectively.

<sup>&</sup>lt;sup>9</sup> Philosophers Mark Johnson and George Lakoff were among the first to show that metaphors are rooted in the body, and not merely a literary device. Their work is grounded in a theory of embodied cognition as well as cognitive linguistics. See, inter alia, Johnson's *The Meaning of the Body: Aesthetics of Human Understanding* (Chicago, University of Chicago Press, 2007) as well as their joint work *Metaphors we Live By* (Chicago, University of Chicago Press, 1980).
<sup>10</sup> PhP, 332.

# 5.1.1 The Upright Posture

A permanently upright bearing is unique to *homo sapiens*. Of all mammals, only humans have a fully orthogonal spine that allows sustained standing, walking and running on two legs.<sup>11</sup> Why this ability emerged remains unclear, and while multiple theories exist and no single factor seems definitive. The influence of habitat (savannah, forest, streams) or of activities (reaching for food, throwing, wading), are all factors under consideration. Yet one does not need to know what caused the upright stance to see that doing so influenced human nature. On a physical and practical level, our ancestors would have gained a range of new abilities: seeing farther, using their newly freed hands and arms for reaching and grasping, throwing and carrying, etc.<sup>12</sup> Those physical developments which so changed both the behavior and bearing of humanity would have had implications on psychological and cultural traits, too. These more subjective traits arising from the upright stance, rarely addressed, were explored by phenomenologist Erwin Straus in his essays "The Upright Posture" and "Born To See, Bound to Behold."

For Straus, the upright posture is not only unique to humanity, it is also "essential" insofar as standing upright entails a certain mode of being and "pre-establishes a definite attitude to the world."<sup>13</sup> Our very anatomy is shaped to enable our uprightness, he points out. The various parts of the skeleton (foot, shoulder, spine) are shaped for this. So too are the proportion of the limbs and the corresponding muscles and nerves; the vestibular system, and the frontality of the face. The elevated head means that he senses conducive to rationality and communication--vision, hearing, speech—are raised to the top of the body, in the face, and away from the feet and the earth. What did this atypical anatomy mean for the human condition? What are its implications for how we move through the world and experience it? Straus identifies several areas where the emergence of the upright stance influenced human behavior and bearing towards the world, far beyond the practical advantages. It was important for the individual's autonomy and selfpreservation--even taking on associations with character. It changed our contact with the ground, to things, and to others.

### a) One's Own Two Feet

Standing upright and walking are the first things a human infant has to learn, even before speaking. It marks the transition from an entirely dependent being to an autonomous one. As Straus notes, to the newborn, standing upright does not come naturally and without effort, like breathing or eating--and yet it is just as key for survival.<sup>14</sup> The upright stance must be learned; it comes gradually and is finally won thanks to much practice and encouragement. The day when a child finally stands is celebrated with joy. This acquisition is a social achievement as well as a physical one, for it is

<sup>&</sup>lt;sup>11</sup> Humans are furthermore unique among all vertebrates. While some birds are bipedal (penguins, ostriches) one cannot compare their motions to that of humans since they have a "completely different functional anatomy and biomechanics"). Niemitz, C. The evolution of the upright posture and gait—a review and a new synthesis. *Naturwissenschaften.* 2010 Mar; 97(3): 241–263.

<sup>&</sup>lt;sup>12</sup> An upright posture, with the liberation arms and hands (with opposable thumbs) and consequent tool usage, is correlated with the increase in brain size compared with other primates. See Goran Lundborg's *The Hand and the Brain* (London: Springer-Verlag, 2014), 7-9. My thanks to Dr. Patrick Byrne for this observation. <sup>13</sup> UP, 138-9.

learned with continual help and encouragement from the family. It is a milestone in the child's development, since it marks the start of independence as well as mobility.<sup>15</sup> That the upright posture leads to autonomy and stability is very likely why it has so many associations with character: a standing person is honest and trustworthy; while a person who "stoops low" is the contrary, etc. While such figures of speech are primarily metaphorical, we might still wonder at the reason for their source and emergence. Indeed, the ease with which spatial and bodily configurations lend themselves to description of other, more abstract situations seems to be a clue, in language itself, to the psychic, if largely unconscious, significance of the body's posture and orientation (a point discussed further below).

## b) Relations to the ground, things and others.

More tangible consequences of our vertical stance emerge in Straus's comparison of humans to animals, which explore how uprightness may have specifically altered our behavior and how we perceive our surroundings. The upright posture's autonomy brings separation and distance, from the earth, from objects we interact with, and from others. "Upright posture removes us from the ground, keeps us away from things, and holds us aloof from our fellow men. All of these three distances can be experienced either as gain or as loss," writes Straus.<sup>16</sup> We are no longer parallel to the ground, but balancing precariously upon it; our focus shifts from the immediate space to more distant spaces such as the horizon or the sky. In *Born To See*, Straus suggests that our stance also resulted in a more visual, thus detached and contemplative, relation to a wider scope of things. At the same time our freed hands enabled us to rearrange our surroundings in line with our needs and wishes. Finally, regarding others, we are brought face to face, communicating expressively and symbolically.

### c) From Ground to Sky

On the physical level, standing upright obviously places us at a greater distance from the ground, and requires us to balance ourselves and remain stable, day in and day out. Our contact with the earth thus grew more precarious, for unlike most animals we can easily fall over, notes Straus. <sup>17</sup> As a result, we can never completely forget about maintaining our balance, since "gravity is never fully overcome, it calls for our activity and attention."<sup>18</sup> Lying down again, surrendering our weight to sleep or rest, often comes often a pleasure or relief. We are only truly oblivious of gravity when we are asleep. It is no surprise, then, that the dream world immerses us in an amorphous world of weightless images. The importance of our own sense of stability, because it is not absolute, is always achieved against a background of rising or falling (which is why, as we see below, Merleau-Ponty refers to up and down as an "existential orientation" of mankind, one with both emotional and social dimensions).

Balancing our weight is a perpetual activity, then, even if we need not think about it. In rising up, we are distanced from the ground which other animals touch with all four limbs. We no longer touch the earth with our hands, see it looming before us, or catch its various odors. Instead of being immersed in the nearby environment, through smell and

<sup>&</sup>lt;sup>15</sup> UP. 143.

<sup>&</sup>lt;sup>16</sup> UP, 143.

<sup>17</sup> UP, 147.

<sup>&</sup>lt;sup>18</sup> UP, 143.

touch and lowered gaze, we gain, by standing, a better sense of the distant one.

Straus contrasts the human stance to that of terrestrial animals oriented towards the ground plane. Humans are structured vertically: we rise further from the ground, aligning our spines the vertical of gravity, balancing against its pull. By contrast, terrestrial animals are organized horizontally. A four-legged animal's movement is "in the direction of its length," with its head preceding its trunk and the rest of it.<sup>19</sup> Straus notes that the long axis of an animal's body is structured around the acquisition of sustenance: that is, the pursuit, capture and ingestion of food. An animal leads with its mouth and nose, followed by ears and eyes that aid in hunting, then come the legs and digestive organs, finally the tail and eliminative aspects. Thus its physical organization and movement are "in service of bodily incorporation," as it literally "follows its nose" towards its next meal.<sup>20</sup> As a result, an animal's attention is directed towards the ground plane along which it crawls and runs, hunts, sleeps. "The horizon of animal interest is pulled down very low and limited to a narrow territory just ahead," he notes.<sup>21</sup> Its sense of "above," if any, is not like ours, since it has its back against the sky. Straus notes that its back "delimits the animal's body against the upward direction like a roof or dome," with its spine more like a suspension bridge than a support column.<sup>22</sup> Humans, by contrast, move "in a direction perpendicular to the length axis" of the body, and thus we have a very different orientation to the three dimensions. <sup>23</sup> Vertical, we have a keener sense of space above us. Raised higher, we take in greater distances.

If quadrupedal beings follow their noses; bipedal humans lead with their eyes and follow their far -reaching gaze. "The muzzle, turned mouth, has receded beneath the line of sight; in the human "face" the eyes are directed at the things themselves, no longer exclusively devoted to in-corporation, desire and aversion, approach and withdrawal.<sup>24</sup> Upright, our visual sense has a far greater scope and overview. From our slightly higher vantage point, we see further and are more aware of a more distant, greater horizon. The space of our visual field grew more vast, with the effect that much of the visible world was at a distance. Consequently, our ancestors grew used to seeing things at a distance far beyond their power to reach or incorporate them.

Straus speculates that this latter distance led to a kind of detachment: "we comprehend things without prehending them," he writes.<sup>25</sup> Beholding things in themselves, without needing to reach or acquire them, became a habitual mode of our perception. This detachment would ultimately lead to the purely contemplative gaze, a disinterested stance which comes to simply regard what is "over there" without actually going there and getting involved (this sort of contemplative "beholding" is discussed more below).<sup>26</sup>

# d) Things Within our Reach and Beyond

An upright stance also changed the relationship of humans to the immediate world. The shift to the upright

- <sup>22</sup> BTS, 340.
- <sup>23</sup> BTS, 340.
- <sup>24</sup> BTS, 341.
- <sup>25</sup> BTS, 342.

<sup>&</sup>lt;sup>19</sup> BTS, 340.

<sup>&</sup>lt;sup>20</sup> BTS, 340.

<sup>&</sup>lt;sup>21</sup> BTS, 341.

<sup>&</sup>lt;sup>26</sup> BTS, 342-3.

position means that our arms and hands are freed from the task of bearing up the body. Our anatomy adjusted in a way that increased the flexibility and dexterity of the upper limbs. The human chest changed its proportions, growing flatter and wider, thus enabling a transformation of the shoulder anatomy. The latter made it possible for humans to reach high and rotate their arms in all directions, thus opening up space both above the body and to its sides.<sup>27</sup> Having two free and mobile front limbs means that the space of our potential action is opened up both above us as well as to our sides, right and left. Freeing the arms and hands from weight-bearing and locomotion allowed humans to engage in entirely new sorts of activities, such as exploring things through touch, gathering and carrying, manipulating objects, using tools, etc. We are free to make things into what we choose, arranging natural processes in accordance with our needs and desires. No longer encumbered by the task of supporting the body during locomotion, human hands grew agile and expressive.<sup>28</sup> One notable gesture was that of referential pointing, presumed to arise along with the broadened field of vision.

Pointing is a sign made to indicate the location or existence of things I cannot grasp, or that are well beyond my grasp. It presupposes another to whom I wish to communicate, whose attention I wish to direct towards what is not immediately apparent. "In pointing, man's reach exceeds his grasp," claims Straus.<sup>29</sup> In addition, pointing is related to the contemplative viewpoint, speculates Straus. For it does not seek to capture or incorporate the thing, merely to momentarily note its existence and place. In other words, Strauss holds that our upright posture, by freeing the hands and by extending and prioritizing the sense of vision, indirectly contributed to the development of the contemplative viewpoint. The development of this contemplative gaze, that is, the ability to merely "behold" that which is visually distant, was a step towards the making of images—a specifically human trait, claims Straus.<sup>30</sup> Only humans seek to reproduce the sheer appearances of things, mimicking them in an ideal form we can never touch, only see.

## e) Face to Face with Others

Standing upright also changes how we confront other beings. Straus emphasizes the autonomous and unbending dignity of our verticality: "in upright posture, we find ourselves "face to face" with others, distant, aloof—verticals that never meet."<sup>31</sup> Yet it is fair to say that meeting face to face enables the core intersubjective activities of speaking, listening, and reading facial expressions. Moreover, the arms, now free to gesture, are part of our meetings: they can be used to welcome the other in an embrace or keep him at "arm's length;" we may shake hands in friendship or cross our arms in suspicion.<sup>32</sup> Finally, while this face to face position has connotations of trust, honesty and openness, it nonetheless is also one in which we are markedly exposed. For not only the face but the more vulnerable regions of belly and genitalia are brought to the front and are thus in need of covering. At the same time, our backs remain exposed and difficult to protect, and we are easily approached from behind—thus what goes on just behind us, unseen is cause for

<sup>&</sup>lt;sup>27</sup> UP, 155.

<sup>&</sup>lt;sup>28</sup> Engels in 1876 theorized that the upright posture was the precursor to rationality, since it freed the hands for toolmaking and labor, which led to socialization, language and rational thought. This ran counter to Darwin's idea that increased brain size and rationality must have preceded the upright posture.

<sup>&</sup>lt;sup>29</sup> UP, 154-5.

<sup>&</sup>lt;sup>30</sup> BTS, 343.

<sup>&</sup>lt;sup>31</sup> UP, 145.

<sup>&</sup>lt;sup>32</sup> UP, 145.

anxiety.

Strauss sees the human posture as "austere" since each of us stands aloof, majestic remote and solitary—a little like chess pieces. Proudly dignified and erect, our vertical axes never come together or converge; that is, not unless we deliberately choose to incline, congenially or deferentially, in some fashion.<sup>33</sup> It is a sign of a respect, homage, or a conciliatory mood, to perform such gestures as tipping one's hat, nodding to acknowledge another, curtsying or bowing. Before a religious divinity, we reverently bow down our heads or even kneel down, notes Strauss. Conversely, we expect that our highest leaders maintain their authority by remaining staunchly upright (a king whose crown has slightly tilted, or a cardinal whose miter falls askew, seems ridiculous, Straus concludes).<sup>34</sup>

In sum, we are balanced, then between ground and sky, between touching the ground below and surveying the distance horizons. Rising off the ground distances us from the sensory field below us but opens up entirely new horizons and distant prospects. The human arm and shoulder, in contrast to the animal one, opens up the lateral and vertical dimensions to a greater degree, both in our practical actions and our symbolic expressions. Our vertical posture disposes us to a more wide-ranging vision, expanding our senses beyond the immediate, prioritizing vision over the other senses. The arms and hands liberated from weight bearing are means of interacting with others, but also tools for intricate labor. Their freedom of movement above us and to our sides enables greater spatial exploration and awareness of our surroundings, opening up the lateral and vertical dimensions to a greater degree.

Straus explored the vertical orientation of the human being in contrast to the horizontal orientation of the animal, focusing on the association with autonomy, distance from ground, the altered orientation of our spines, no longer parallel to the earth. Let me now turn to some of the more implications of this altered orientation of the spine: namely, the connotations around rising and falling, motion along the vertical.

### 5.1.2 Motion and Verticality

Unique among animals, our spines are aligned with the vertical, which requires perpetual balance. Our whole body is structured to keep this equilibrium--from the soles of the feet, to our vestibular system, to our bilateral symmetry. We are designed not to stand tall, and not fall. It is no wonder, then, that we respond strongly to any motion along this axis. The sense of moving upwards or downwards, of rising and falling along the vertical axis, whether under our own power or not, seems to be a powerful spatial experience, one that figures strongly in the human imagination. This is evident not only in our language, but in the myth, dreams, and art of both the collective and individual human psyche. Vertical motion, whether rising or falling, Our own weight and balance both psychic and physical. Vertical motion plays a part in describing the psychic (character as well as fleeting moods); it calls into question the relation of material body to ethereal soul (pulled in different directions); its existential significance shows up in dream, myth and fantasy.

### a) The Sense of Rising and Falling

Our upright posture is so habitual as to command almost none of our conscious attention. We are only aware of it

<sup>&</sup>lt;sup>33</sup> UP, 145.

<sup>&</sup>lt;sup>34</sup> UP, 146.

when it is threatened, for instance, when we risk falling or lose our balance. Unsurprisingly, standing and balancing, rising and falling come with strong social and emotional connotations as well.

The positive connotations of rising, and the negative ones of falling, appears in the descriptions of a range of emotional, social, and ethical situations. Philosopher Mark Johnson, working with cognitive scientist George Lakoff, in *Metaphors We Live By*, explored the prevalence of this trope throughout our language. We describe mood in terms of feeling down or down, as well as our state of consciousness, i.e., waking up versus falling asleep; in matters of health, we speak of being in top condition, versus coming down with an illness, sinking into depression.<sup>35</sup> Success is implied when we rise to the occasion, when we reach or stay on top of things, as opposed to when we let things slip, feel overwhelmed, or simply go slowly downhill. The metaphorical values also pertain to social position: one has superior or inferior status, is upwardly or downwardly mobile; on climbs the ladder of success. Regarding ethics and virtue, one may be an upstanding citizen, have an upright character, and stand for one's beliefs; conversely one shows twisted or warped behavior, strikes a low blow, caves in, etc.<sup>36</sup> "Standing on one's own two feet" implies self-sufficiency, and an upstanding or upright citizen is honorable and trustworthy. To "stand for" something is to hold fast to one's values and commitments, while being "crooked" or "stoop to a low level" implies compromising one's integrity. Economic value in general is also seen as rising or falling (prices, incomes), as are hopes and expectations.

These surprisingly plentiful examples show how pervasively the sense of upwards and downwards motion has infiltrated not only language but also our way of conceptualizing and structuring our experience. Indeed, not just verticality but spatial imagery in general (center-periphery, path and goal, etc.) underlies much of our conceptual thinking, as Lakoff and Johnson demonstrate with their vast collection of linguistic examples.<sup>37</sup>

Not only do spatial metaphors structure much of human experience, they do so in a deeply rooted, pre-objective and pre-linguistic way. The emotional valence of spatiality does not fall within the realm of the objective, but rather constitutes a layer of meaning that cannot itself be conceptualized or coded in language, holds Johnson. They are not objects of experience themselves, but rather the very structures we use to format it, and thus are not easy to hold up to the light: they lie "beneath our conscious awareness and beneath representational structures."<sup>38</sup> Given the difficulty in describing this layer of meaning, elusive to any objective approach, how can spatial metaphors be coherently conveyed or understood? Johnson points to artistic and aesthetic experience as a realm where these meanings show themselves, not as conceptual or linguistic, but as visual and spatial, and thus deeply rooted in embodiment: "The arts are exemplary cases of embodied, immanent meaning… operating below the level of words and propositional content."<sup>39</sup>

The way in which the arts instantiate the expressiveness of vertical dimensions is explored at length in Part II of this chapter. The sense of verticality as experienced within the lived body is the basis of this expressiveness, and there is

<sup>&</sup>lt;sup>35</sup> Lakoff and Johnson, 17.

<sup>&</sup>lt;sup>36</sup> Lakoff and Johnson, 16-19.

<sup>&</sup>lt;sup>37</sup> These spatial metaphors are so common that the authors refer to them as "image schemas", that is, "dynamic, recurring patterns of organism-environment interaction" (Lakoff and Johnson, 141).

<sup>&</sup>lt;sup>38</sup> Mark Johnson, *Meaning of the Body: Aesthetics of Human Understanding* (Chicago: University of Chicago Press, 2007), 207. <sup>39</sup> Johnson, 234.

much more to be said about it before moving on to these concrete examples. To begin with, it is worth delving further into the strong affects linked to motion along the vertical axis, that is, our sense of rising and falling. The upright posture makes us prone to falling, while it enables climbing. Our normal posture is fairly static, that is, earthbound, upright, generally at the same height above the ground, Why is it then that the vertical, and particularly the sensation of rising and falling, ascent and descent, be so fraught with emotion and value?

### b) Verticality as an Existential Orientation

Returning to Merleau-Ponty's Phenomenology of Perception, we find a description of the vertical, and the sensation of movement along it, that begins to explain the hold that the vertical has upon our embodied imaginations. The expressive value of verticality is derived from a pattern of ordinary lived experience, and carries these meanings with it in a myriad of human symbols and creations, it is present in our lives as a perpetual undercurrent. Merleau-Ponty notes the recurrence of the "themes of rising and falling" in realms like myth and art; where the imagination is able to operate freely, unfettered from the material world.<sup>40</sup> He links it to fundamental vital processes of the body respiration and sexual desire, yet its significance is not grounded in these latter events that occur in "objective space;" rather, rising and falling become imbued with "emblematic value" since the directions up and down are tied to humanity's deepest longings and fears.<sup>41</sup> If we are "downcast" in disappointment, have an "elevated or low morality" this is not because we are making some analogical or symbolic association with our activities in the physical world, insists Merleau-Ponty, but rather because movement up and down is simply "a direction of our existence."42 The feelings linked to rising and falling precede ordinary perception and action in physical space. "There is a determining of up and down, and in general of place, which precedes 'perception.' "43 Rising and falling are not symbols of some other meaning, they are the kernel around which meaning accrues, both existential, personal, and social: "The whole significance of the dream is contained in the flight or fall...as long as I take them with all their existential implications."44 Again, its meaning lies not in some mimicry of some physical or vital processes (such as climbing or falling, breathing, arousal), but because up and downwards movements are existentially critical, bringing a sense of aspiration and loss, of joy and peace, or dread and despair. "The movement upwards as a direction in physical space and that of desire towards its objective are mutually symbolical, because they both expressed the same essential structure of our being."45

In both dreams and myth, Merleau-Ponty continues, we feel these directions not objectively but as a way towards what we most desire or towards what matters for survival, or away from what we dread.<sup>46</sup> "The movement upwards as a direction in physical space, and that of desire towards its objective are mutually symbolical, because they both express

- <sup>42</sup> PhP, 332.
- <sup>43</sup> PhP, 332.
- <sup>44</sup> PhP, 331.
- 45 PhP, 331.
- <sup>46</sup> PhP, 333.

<sup>&</sup>lt;sup>40</sup> PhP, 331.

<sup>&</sup>lt;sup>41</sup> PhP, 331.

the same essential structure of our being.<sup>247</sup> Life and sexuality "haunt" the space of our subconscious and our dreams, giving it an orientation up and down, forming an existential space. Traditional and religious peoples, still alive to their myths, inhabit such a space: "there is a mythical space in which directions and positions are determined by the residence in it of great affective entities."<sup>48</sup> Existential space is given meaning and direction when it harbors something desirable or dear, sacred or benevolent. For religious or mythical adherents, to move towards such entities-upwards or downwards-tends to bring a feeling of joy and peace.<sup>49</sup>

In short, the vertical is a "direction of our existence" that gives sense to our mood and structure to our spatial being. That it haunts the space of dreams, artistic creation, religion and myth points to a more general spatiality or direction of our existence that runs through all our experience, both objective and pre-objective.

### c) Lightness and Heaviness

The importance of vertical orientation of human beings was noted by Plato, who, in keeping with his idealism, portrayed human reason as a divine element in man that ultimately aspires to return to the heavens from which it came. In the Timaeus, Plato suggests humans are rooted the heavens: "we are not an earthly but a heavenly plant...for it is there, where the soul first sprang into birth, that the divine 'part of us' suspends our head or root and thus erects the whole body."<sup>50</sup> In Plato's scheme, reason puts us somewhere between heaven and earth, the pure intelligences of angels and the pure bodies of earthly beings. The faculty of reason is situated at the summit of the body, well above the spirited soul and sense appetites. As the divine element within us, it points us towards the higher intellectual domain and away from the sensual, changing material world: it 'lifts us up from the earth towards our home in heaven'' <sup>51</sup>. The eternal soul seems to draw us upwards, to join the pure and eternal intelligences of angels, while our bodies, devoted to survival and reproduction, are viewed as part of the material world of change and decay. The structural similarity to the Christian model of the cosmos, is self-evident: the human soul in man aspiring to return to the heavens, where it originated.

The metaphor of a plant in Plato is crucial for explaining how the head can sustain the body from above, exerting an upward pull, as Pavel Grecoric points out.<sup>52</sup> The human head is like the root of a plant, notes Pavel, albeit an inverted one: it "keeps the rest of the human body suspended vertically down, thus making the body upright" just as the root of a plant, fixed in soil, enables a plant to stand and grow upwards. The head, being rational, "gravitates towards the heavens and thus straightens up the body," continues Grecoric.<sup>53</sup> Thus the head, the place of the rational soul, occupies its

<sup>&</sup>lt;sup>47</sup> PhP, 331.

<sup>48</sup> PhP, 332.

<sup>&</sup>lt;sup>49</sup> PhP, 332. Mircea Eliade similarly describes a wish of religious and traditional humans to always live in a place "opening upward", thus the 'center of the world', in which communication with the higher realm was possible via an 'axis mundi' which linked the mundane realm with the sacred. See *The Sacred and the Profane: The Nature of Religion*, trans. by W. R. Trask. (New York: Harcourt, 1987) 43-4.

<sup>&</sup>lt;sup>50</sup> *Timaeus*, 90B1.

<sup>&</sup>lt;sup>51</sup> Timaeus, 90.

<sup>&</sup>lt;sup>52</sup> Gregorić, Pavel, "Plato's and Aristotle's Explanation of Human Posture," *Rhizai. A Journal for Ancient Philosophy and Science*, vol. 2 (2005), p. 189.

<sup>&</sup>lt;sup>53</sup> Grecorić, 189. Plato's idea that upright posture was a sign, even consequence, of our rationality is somewhat akin to

natural place, from which it grounds the rest of us (neatly inverting our usual orientation). The image of the soul's upward pull is reinforced by Plato's claim that the head's position is also designed so we might better observe the skies. For the Demiurge gave us sight so that we might "observe the revolutions of the intellect in the heavens and apply them to the revolutions of our own thinking, since they are akin to those—our revolutions that can be disturbed to those that cannot."<sup>54</sup> By contemplating the stable revolution of heavenly bodies, and learning their correct calculations, we can bring order to our own thoughts and habits, so liable to distortion by the forces of unreason, holds Plato.<sup>55</sup> Standing upright is a first tiny step towards a more orderly psyche, in short, for as Gregoric sums it up, "we have erect posture in order to gaze at the heavens."<sup>56</sup>

Plato's dualism (between bodily matter and reasoning soul) is clearly at odds with the lived body of phenomenology, which poses no separation. Even so, his image remains philosophically and poetically suggestive. Suspension from above, an entirely different orientation to the vertical, implies practical consequences, that is, ethical ones. For Plato, following our reason means abiding by a particular way of life; adhering to ideals and values that transcend the empirical world of material contingency. His image of suspension from above was taken up by Wittgenstein two millennia later when, in speaking of the route to redemption he wrote, "A man who is suspended looks the same as one who is standing, but the interplay of forces within him is nevertheless quite different, so that he can act quite differently that can a standing man.<sup>57</sup> The image of suspension from on high represents religious faith for Wittgenstein. It alters the very dynamic of one's life. For Wittgenstein, Plato's image resonates, because the deeply ingrained bodily dimension of the vertical remains a valid symbol of an absolute that conditions our actions and our very stance in the world.

Plato's original image is valid in another way, too, one having nothing to do with the religious or ethical connotations of the vertical. That is, it still speaks to the impossible yearning to ascend, free of the body, free of material world and its perpetual weight. To fly is an old and persistent human dream; conversely, the fear of falling and resignation to our material heaviness has always troubled us.

## d) Flying, Falling, Balancing

The power of flight seems to be an archaic human wish, whether for the vantage point it gives, which we still call a *god's eye view*, or for the unlimited and direct movements that seem a symbolic escape from daily obligation and obstacles, or for the sheer mode of movement itself. Aristophanes' character Euclipides, in explaining to the birds why he wishes to join them, imagines a life free of human limits: "you formerly were a man, like we are, formerly you had debts, as we

Darwin's hypothesis that the human brain had to reach a certain size before humans were able to stand erect. Reason precedes verticality. By contrast, the materialist theory was given by Engels, who took erect posture as the predecessor of rationality, since it freed the hands, enabling tool making and labor, which then led to social behavior and ultimately language and rationality.

<sup>&</sup>lt;sup>54</sup> Timaeus, 47b6-c3.

<sup>&</sup>lt;sup>55</sup> Timaeus, 47b6-c4.

<sup>&</sup>lt;sup>56</sup> Gregoric, 190.

<sup>&</sup>lt;sup>57</sup> Ludwig Wittgenstein, *Culture and Value*, ed. G.H. Von Wright, trans. P. Winch (Chicago, University of Chicago, 1980), 33e.

have, formerly you did not want to pay them, like ourselves; furthermore, being turned into a bird, you have when flying seen all lands and seas."<sup>58</sup> From Icarus onwards, then, people have contrived modes of flight, from balloons to helicopters, from skydiving to ziplining. But mechanical imitations miss something essential: the sense of rising by one's own efforts, briefly lighter than air and unencumbered. To rise under one's own power seems an ability reserved for the winged gods and the birds. The most esteemed figures in various religions perform levitations and ascensions, walk on water as if the soul (principle of motion) overcame the materiality of the body. As Simmel noted in "The Aesthetics of Weight", weightlessness and ascension connote freedom, divinity, and the liberty of the soul. <sup>59</sup>

If flying calls to mind freedom and expansion of the soul, then unexpected falling is its ever-present risk. The Icarus myth is an early reminder of our physiological—psychological—limits. His demise, superficially due to the failure of materials in extreme conditions, is also a warning not to tamper with human nature. Fear of heights is common and logical. We need to control our balance better in high places, so as to not tumble downward, but maintaining this very equilibrium is more difficult because of the altered visual cues in such settings.<sup>60</sup> Yet this fear manifests irrationally: for even in secure situations, some people insist on imagining the worst: a broken railing, failed engine, or simply an uncontrolled desire to jump.

Both falling and flying feature strongly and universally in dreams. Vertically oriented motions such as climbing, descending, floating, traversing stairs and ladders, are among the most frequent oneiric themes. Studies on their frequency confirm this: two surveys have found over 70% of dreams to be falling dreams while another found 38% of all dreams to be gravity-themed.<sup>61</sup> In any case, the theme of vertical motion is frequent and common—a theme which is interpreted variously.<sup>62</sup>

Merleau-Ponty, as we saw earlier, holds the vertical of dreams to be the existential dimension of desire and fear; the pre-objective state of dreams as a way for the affective qualities of the spatial dimensions could appear in themselves. Unhindered by gravity or solidity, dreams are marked by a different kind of space, free of physical constraints, so that one rises and falls more easily, in a dream space that is "kaleidoscopic and finally amorphous."<sup>63</sup> Dream space, lacking in continuity, gravity, horizons, reveals the pure expressive and affective potential of motion in space, of the pull of the

<sup>&</sup>lt;sup>58</sup> Aristophanes, "The Birds," Aristophanes III: Birds, Lysistrata, Women at the Thesmophoria, Loeb Classical Library 179. (Cambridge: Harvard University Press, 2000), lines 115-120.

<sup>&</sup>lt;sup>59</sup> Simmel, 19.

<sup>&</sup>lt;sup>60</sup> Longer visual distances in high places reduce the visual cues used to maintain balance, and can lead to increased body sway exactly when one needs to rely on the vestibular system for stability. See Whitney et al, Acrophobia and Pathological Height Vertigo, *Physical Therapy*, vol. 85 Issue 5, May 2005, pp 443-458.

<sup>&</sup>lt;sup>61</sup> One study found 38% of all dreams to be gravity-themed; another found over 70% of dreams to be falling dreams; see p. 88 of Maggiolini et al, "Gravity Content in Dreams," in *Dreaming*, Vol 17(2), June 2007, 87-97. The authors speculate, based on the dreams' narrative content, that flying and falling dreams invoked a sense of agency, restoring "a sense of self as agent and integrating maps of self-representation" (96).

<sup>&</sup>lt;sup>62</sup> See Maggiolini et al, "Gravity Content in Dreams." The authors found that flying was most often linked to sexuality and body themes; dreams with flying and other upward movements happiness and surprise, falling with fear. <sup>63</sup> UP, 142.

earth or its lack, of both flying and falling. Yet ordinary life features neither flying or falling very often; it is rather composed of avoiding these two extremes. The midpoint between flight and falling is simply the quotidian sense of bearing and carrying one's weight, day in and day out. Thus opens another dimension to verticality, having to do with how we handle our weight and lightness in the realm of ordinary life, not in our imaginations: the sense of how we carry our weight.

#### e) The Aesthetics of Weight

Weight is a valid metaphor for the practical cares of life: one floats through life, or is burdened with worries; we rise to a challenge, overcome resistance, feel light-hearted when free of cares; conversely, we *shirk* our burdens and duties or take them up, we *bear up* under times of strain, and we collapse from fatigue. As the only animal that has learned to stand permanently upright, humans have a unique posture and thus a unique relation to their own weight. We must actively maintain our balance at all times, for "gravity is never fully overcome", as Straus noted; our upright bearing remains an effort.<sup>64</sup> Humans, thanks to their unique upright stance, must monitor their balance actively and continually. "Gravity is never fully overcome," observed Straus, for maintaining one's balance calls for "activity and attention."<sup>65</sup> Positions of rest are possible; still, we only attain complete oblivion from our weight during sleep.

A few philosophers have explored the way the perpetual need to battle gravity is expressed in our movements, and in our moods. Nietzsche, hardly an adherent to traditional metaphysical values, valued lightness as the mark of a healthy, unburdened soul, and saw heaviness of spirit as a dire but common vice. The Spirit of Gravity that plagues mankind in *Zarathustra* is the "supreme highest and most powerful devil" through whom "all things fall;" he makes us see life as a burden, an enterprise that we suffer through like patient, well-laden camels, instead of learning to dance and bear ourselves lightly.<sup>66</sup>

The theme of weight also intrigued Georg Simmel, who took a similar, but more measured view in *The Aesthetics of Weight*. He saw the struggle against gravity as having both moral and aesthetic connotations, viewing the body as a "theatre" where the energies of the living body perpetually confront the physical force of gravity, and where the two must always compromise.<sup>67</sup> The shape of our very movements reflects the will and spirit that we manage to muster against the world's resistance: "The movement of our limbs, always subject to a struggle between the weight that pulls us down, and the many impulses, both psychic and physical, that never cease to deflect this downward pull and compensate for the weight of the body" ....one might even say that our movements *are* this very struggle."<sup>68</sup>

Strength and freedom are meaningless unless there is some resistance, some obstacle, for them to overcome, argues

<sup>&</sup>lt;sup>64</sup> UP, 142.

<sup>65</sup> UP, 142.

<sup>&</sup>lt;sup>66</sup> Fredrich Nietzsche, *Thus Spake Zarathustra, eds. A. Del Caro and R. Pippin,* (Cambridge: Cambridge University Press, 2006) 29, 84.

<sup>&</sup>lt;sup>67</sup> Simmel, 19.

<sup>68</sup> Simmel, 20.

Simmel. In its perpetually overcoming of material resistance, the body is the medium for the soul to "express and reveal itself," by various postures aimed at "overcoming, vielding, balancing."69 Such expressiveness animates not only actual bodies but their representations, as well, forming the aesthetic basis of figural sculpture. Simmel saw different artistic styles as portraying various ways in which balance might be struck between the energy of the human will and the pull of the earth. Comparing a Greek statue to a Baroque one, the former has a realistic sense of weight and gravity.<sup>70</sup> The Greek statue, true to life, does not conceal the strain and effort undergone by the subject; the Baroque body however seems not to feel the burden of its weight, and is governed only by internal impulses and meeting no external resistance. Simmel values the Greek statue as a greater aesthetic achievement, since the resistance of matter is no "negative principle to be deplored;" rather, it is precisely what allows the soul to inscribe its motions within the visible realm.<sup>71</sup> For instance, in Michelangelo's slave figures, the emotional expression and moral message are made clear precisely by showing the bitter effort needed to overcome the oppressive material constraints on the figure. In these sculptures, the entire body struggles against gravity with "an extraordinary force and passion," and yet the enslaved human remains trapped and immobile.<sup>72</sup> The material burden is impossible to overcome; the humans are overloaded and their free wills and motion reduced. The way that a figure's materiality and weight is depicted is a mark of a given historic style, one hand, yet it varies among particular works and is key to their expressiveness. Compare, for instance, Rodin's Burghers of Calais to his ethereal dancers or pairs of lovers: the burghers are shown at the final moments of their lives, burdened by defeat but bravely sacrificing themselves for their city; each suffers his own way, variously bent and bowed, or else rigidly erect, but all moving with dignity and gravity at a crucial moment in history. In sharp contrast to this are Rodin's dancers, who seem almost oblivious to their own weight. But it is his pairs of lovers who are the very epitome of lightness and freedom; they are caught up in graceful arcs, moved by their desire and free from all outer exigencies or compulsions.

In both life and art, how one balances and moves under the weight of the body is a matter of either grace or dignity, for Simmel. If one carries few burdens and bears one's weight lightly, little effort is required and the figure moves easily, freely, becoming the very incarnation of grace. The spirit seems to win easily over matter, and material world's resistance amounts to little more than a game.<sup>73</sup> By contrast, a heavier load demands tireless effort, bringing internal strains. Remaining upright and bearing up well under great stress is a natural symbol of dignity because, Simmel claims, it shows a greater effort of will.<sup>74</sup> In short, the body's posture reflects the person's internal struggles with materiality and is thus a sign of our strength of character. We can read the internal struggles of another in their upright bearing. Indeed, for some art theorists, this level of physical empathy is not limited to other humans but extends to all upright beings, as I will now

- <sup>70</sup> Simmel, 21.
- 71 Simmel, 22.
- 72 Simmel, 22.
- 73 Simmel, 27.

<sup>69</sup> Simmel, 21.

<sup>74</sup> Simmel, 28.

explore.

### 5.1.3 Conclusion to Part I (Chapter Five)

If "being is essentially experienced as verticality," as Arnheim said, it is because the vertical thoroughly it structures our daily existence, both psychic and physical.<sup>75</sup> The other axes are not experienced with the same inevitability and immediacy as the sense of up-and-down. As embodied beings, we have a sense of our own balance and uprightness, and we are always aware of moving against our own weight. Necessary for balance and stability, bridging the above and below, the vertical axis lends itself to a kind of natural symbolism across various domains.

Rising to an upright position has altered our axes vis a vis the ground plane, changing our orientation and our anatomy. It has freed our hands for labor and gesturing; it has removed us from the ground while opening up our scope of view and enabling us to meet face to face. The evolution of an upright bearing has increased power of the gaze, freed our hands, and thereby changed the encounter with others. The connotations of the upright posture are present in many linguistic metaphors, strongly value laden, pertaining to one's individual character and one's situation in life. Standing upright is our first achievement as children, and forever shapes our sense of stability and balance—we must unconsciously balance ourselves to avoid slipping and falling—a lapse to which we have irrational, physical aversion. To help maintain the upright stance, our bodies find anchorage to a vertical "level" in our surroundings, to which we are perpetually oriented, perpetually balanced. Both art and science have shown what art has intuited, namely, we carry our weight in a way that reflects, however dimly, our mood and well-being.

If the upward posture distanced the human race from the ground, it brought us that much closer to the sky. Straus proposed that our higher viewpoint contributed to a different way of seeing, one focused further in the distance--the contemplative, disinterested gaze. His idea is but an echo of one originally proposed, in a more radical form, by Plato: we are upright in order to gaze at the starry spheres, to model our souls accordingly. Humans, vertical axes in themselves by virtue of their upright posture, might then be said to reside in two distinct realms, the above and below. We dwell on the earthly plane while being guided by elements of the sky. For us, the vertical is the dimension of opposites: ideal versus the material, of soul versus body, lightness versus weight, rising and falling. As an axis, it incarnates the very division between materiality and ideal aspects of the human being, for the soul has traditionally risen upwards while the material body returns to the earth.

Earthbound, we harbor ancient dreams of flying, yet these are countered by primal fears of falling. Movement along the vertical axis, whether in reality or in dreams, tends to be physically exciting and tinged with emotion. Rising and falling, flying, traversing the different realms above and below, has long been ascribed, in myth, folklore and religion, to divinities or souls in transformation. The vertical has been thus called the axis of the sacred, as it links the mundane plane of human existence, the material here and now, to planes above and below.

<sup>75</sup> Arnheim, 35.

On the other hand, if we set aside the religious context or metaphysical ascription of value and try to interpret the bodily experience of the vertical on a purely phenomenological level, I would argue that it retains much of its affective and existential import. For the vertical and its valences give structure to our subjective experience of space. Merleau-Ponty rightly saw it as the dimension aligned with hopes and fears, desires and dreads, yet entirely explicable in terms of primal body processes and emotional valences. Weighted or not, anchored or not, we tend towards a perpetual orientation to the vertical, seeking it anew in a new context, and even when it is not there. Feelings of rising and falling are felt frequently (and dramatically) in dreams, when we are free of any orientation to the outer world and most oblivious to our own weight. The spatial metaphor of verticality is rooted in an embodied structure of meaning (Johnson's image schema) that eludes objective description. Grounded in the body and pre-verbal experience, our sense of being oriented to the vertical is a key aspect of pre-objective space.

The vertical is continually felt within the body, which not only must maintain its own balance but is the spirit level by which we judge the uprightness of all around us. It structures the whole material world without being material itself. Thus the vertical is a kind of intangible norm, an ideal that is everywhere manifest. The vertical is both within us and without, felt subjectively and transcending us, objectively. By means of the vertical and our relation to it, we are intertwined and oriented, both with the world and with spatiality as such.

#### 5.2 Part II: The Vertical in the World

Beyond our internal sense of uprightness, we also encounter the vertical visually in the external world. The flora and fauna of the world are oriented to the vertical; trees stand upright, animals take a normal upright stance, vines climb upwards. Inorganic nature is also clearly shaped by it: mountains and hills form peaks, rain and leaves fall downwards.

It is implicit in the space we inhabit, as earthbound beings. It informs all our practical interactions with the material world: whenever we balance or stack or carry or hang something. It is an ideal dimension, everywhere perpendicular to the ideal ground plane, which is determined in relation to it. Whatever stands upright, stable and independent, does so by balancing its own weight, around a vertical axis —ourselves included.

More so than with the other dimensions, matter and beings tend to condense around the vertical, to take on a vertical axis in their own structure and form. Any solid being forms a center of gravity and any upright one forms a central, vertical axis, since anything solid and standing is also balanced, such that its mass is equally, if not symmetrically distributed.<sup>76</sup> A vertical axis tends to give structure not only to the thing but also the space around it. Seen from above, it reduces to a circle or a point, as with the diameter as a column, a tree-trunk, or a human spine. Yet verticality also structures upright planes, as with a mountain ridge, a tidal wave, or a wall. Since the vertical pull of gravity is everywhere, a vertical axis marks every standing thing.

<sup>&</sup>lt;sup>76</sup> What is not solid behaves differently: we find no axis of balance in fluid entities like puddles or clouds, or in flat entities like photos, or in floating entities like clouds. Weightless entities tend towards a different kind of motion altogether, as I will discuss below.

The omnipresence of gravity makes the vertical the most absolute of the dimensions, for it is the only direction that remains the same for any given frame of reference we might adopt, whether egocentric, allocentric, or absolute. (By contrast, if we wish to designate left and right, or front and back, we need to add specifics about the perspective that is taken.) This invariance of the vertical throughout all reference frames makes it crucial to both navigation and orientation. Vertical elements thus tend to serve as landmarks; for besides remaining stable across all reference frames they are fixed and visible from afar. Prominent vertical elements have always served serve to center, delimit, and orient space at all scales: a spire or monument enlivens a city square, a mountain visible throughout a whole region becomes its center and reference point, and most remote and unchanging verticals of all, the celestial bodies, enable navigation across the globe and the marking of time itself. For a vertical element serves to mark, permanently, a particular point on the earth, fixing it both in space and in our awareness of space. Hence the vertical dimension was long considered a prime symbol of rootedness and stability.

Yet this very stability and absoluteness of the vertical is associated with a particular picture of the cosmos: a centralized, stationary earth—so fixed that it served as the metaphor for substance itself. In this traditional schema, the vertical is an absolute and hierarchical axis. As such, it figuratively links a given point on the horizontal plane with the realms both above and below it.<sup>77</sup> These higher and lower regions were taken as distinct from the ordinary plane of existence in various religious schemes they corresponded to a heaven and a hell, while in Aristotelian world picture the distinction was simply an ontologically one. This absolute, hierarchical vertical became merely relative when the geocentric model of the cosmos gave way to the modern universe, centerless and infinite. Correspondingly, the idea of distinct "cosmic realms" became, for us, a poetic or romantic conceit, characteristic of a pre-modern worldview that has been relegated to the realm of the imagination.

On the other hand, our physical experience of the vertical is largely unchanged. The horizon is still the threshold of night and day, the marker of the present itself; and in broader measures of times, the apparent trajectories of celestial bodies still delineate the months, seasons and years. Practically, too, the vertical is as stable and upright as ever, governing our movements and constructions, our sense of verticality and horizontality. Husserl was right: in the experience of the lifeworld, the Earth does not move. Is there not, then, some lingering strength to the symbolic power of the image of a link between celestial and subterranean, of these radically distinct domains of being, insofar as it still resonates strongly in both philosophy and the visual arts. How does this secular axis mundi figure into our secular, post-religious landscape? Surely the ancient paradigms, so evident in our metaphors, our art and religions, and our built environment, have left some traces in our cultural memory. What meaning can we still find in a vertical axis, if not grounded in the same metaphysical picture? For while the latter may have changed, the lifeworld which gave rise to it has

<sup>&</sup>lt;sup>77</sup> Symbols depicting such interlinking between realms appear frequently in myth, folklore, religion, from Jacob's ladder, the tower of Babel, the rainbow, the world tree.

not. And thus we still have a lingering sense of reverence for the sky, fascination for things that float or fly, a poetic if not scientific reverence for the glow of the skies. The question I will explore below, then, is how the shift in the cosmic picture has impacted the meaning we ascribe to it.

# 5.2.1 Vertical as Center, Vertical as Bridge

To explore the significance of verticality within a given model of the cosmos, I will draw upon two related accounts. The vertical in the traditional world order is epitomized by the idea of an axis mundi as set forth by historian of religion Mircea Eliade. Common to mythology and folklore, the axis mundi formed the center of a given community or "world", serving as a bridge between the mundane plane of existence and the extramundane realms above and below. For Eliade, an entire religious community, or world, is given orientation by this absolute vertical which marks a sacred site where cosmic realms interpenetrate. We find a more secular interpretation of the vertical axis, grounded in contemporary phenomenology (particularly Heidegger) in the writings of architectural theorist Christian Norberg-Schultz, who describes the vertical as providing a foothold in "existential space." In this model, it continues to provide a given community with a symbolic and literal center, grounding the comings and goings of its members and linking them to the earth and sky.

In the final section, I will make a case for secular poetics of the vertical by exploring how certain theorists and practitioners of the visual and spatial arts have reinterpreted or reimagined this idea of different cosmic realms and their interconnection. For instance, Gaston Bachelard explores the emotional associations with upper and lower domestic spaces, Rudolph Arnheim described how the "stance" of certain structures articulates their situation between earth and sky. Finally, the painter Paul Klee reinterprets the different cosmic realms in terms of the motion characteristic to each of them.

# 5.2.2 The Axis Mundi and the Three Cosmic Realms

The vertical, seen all around us and felt in our bodies, connects our earthly plane with the parallel realms above and below, the heavenly skies and the dark underworld. It thus figuratively unites the profane world with the supernatural or sacred realms above and below it. Symbolically, it evokes ascension and descent, lightness and heaviness, brightness and darkness, life and death.

For Mircea Eliade, the vertical is frequently instantiated as an axis mundi, a line that connects the three cosmic realms and enables communication between them. Near universal in religious and traditional cultures, the axis mundi may take the form of a natural element, such as a sacred mountain or tree, or a created one, such as a steeple, minaret, obelisk, totem pole, ziggurat, etc. All of these are symbolic connections between the divine and human realms, figuratively permitting passage between them, materially and spiritually, in the form of offerings, visitations, prayers and rituals. Thus the vertical served as a kind of portal between the secular and the sacred. By bringing the three cosmic levels into communication, the axis mundi forms a "break in the homogeneity of space" and allows the sacred to appear amid the profane.<sup>78</sup> It therefore is taken as the "center of the world" by a given religious person or community, providing a fixed center around which their consecrated world is oriented.

The axis mundi draws much its symbolic power from the stark differences of those domains it purportedly interconnects. While Eliade's original account describes these three planes from a religious perspective, or even a mythical one, it should be pointed out that these individual realms retain meanings that do not stem from, nor depend on, a religious or supernatural context. Indeed, the striking particularities of these natural regions likely gave rise to the latter. For instance, the heavenly realm, though at a vast and unreachable distance, influences the terrestrial plane: It is the realm of astronomical and meteorological wonders, and it harbors the entities that guide humans and enable them to have a more spiritual and ordered existence on earth. The movement and position of celestial bodies structures time and space, our directions and our days, and orient our directions. Light enables visibility, warmth, life itself, and it serves as a symbol of the divine, traditionally assumed to live in its unlimited, luminous reaches. Universally, the sky has been populated with divinities. The earth is another level: the mundane realm of human activity; where territories are established, survival ensured and well-being sought, where borders are defined and defended. Here is the secular realm of daily life, of finite choices; it is homogeneous and interconnected. It lies between earth and sky, the realm of mortal, active men. Finally, the realm below is the unfathomable domain of burial and repression, of fertility and rebirth. Here are the unseen foundations of the visible and inhabited world; the supports and underlying conditions. Here is where we hide, literally and metaphorically, what we prefer not to be seen, from sewers to secret tunnels to bunkers to unacceptable thoughts. The elemental natures of these three regions, heavens, earth, underworld, give them a universal symbolic potency independent of any supernatural associations. On the other hand, history has long associated these regions with sacred figures, and such traditions leave traces not to be ignored. For this reason, I will dwell upon the character of these three planes of human existence -- the skies and the earth and the underworld-taking them now from a religious perspective, now from a secular one. We will see significant overlap between these two perspectives, and it is this overlap, I will argue below, which makes the symbolic power of the vertical resonate even still.

## a) The Subterranean Region

The subterranean realm is the unfathomable domain of burial and repression, of fertility and rebirth. Here are the unseen foundations of the visible and inhabited world; the supports and underlying conditions. Below us lies the earth, the matter from which we are made and to which we return, where we bury our dead and relegate our waste. This realm harbors, figuratively and literally, what is neglected, or repressed. For we tend to bury that which we do not wish to be confronted with. Psychologically, our subconscious minds hold the memories, emotions, wishes, we cannot quite bring into the light. Physically, the ground below receives our remains and our waste. Our most prosaic utilities are also buried here: the urban subterranean zone is increasingly crammed with obligatory physical infrastructure: mass transit lines,

<sup>78</sup> Eliade, 42.

water and sewage pipes, secret tunnels and bunkers. Things that are relegated to the underground have either lost their value, or else had little value in themselves.<sup>79</sup>

The underworld is where souls of deceased persons are found, in various religions and myths. In some traditions it serves as their permanent abode, in others as a place of punishment and torment for those who led immoral lives. The underworld of myth and religion tends to be a region of its own, ruled by a deity, separated from the realm of the living by supernatural means, inaccessible and incomprehensible to the living. In Dante's model of hell, the Inferno, the further down one descends, the worse the crimes and consequent sufferings. Unending storms punish the lustful, the gluttons wallow blindly in putrid mud and rain, heretics were trapped in flaming tombs. The most sinful sank to the lowest level of all, where they were trampled upon as they lay underfoot, frozen into a lake of ice, immobilized, their downturned faces blinded by their own frozen tears. With increasing depths came increasing evils and physical misery.

In other traditions, however, the subterranean realm has been construed as a source of regeneration and rebirth. The baptismal ritual of submersion under water is not only a cleansing, but also, argues Mircea Eliade, a symbolic reenactment of death and rebirth, and thus a rite of passage between realms enabling a fundamental transformation of the self. Submersion merges the individual form with the original, homogeneous material from which the cosmos once arose; it symbolically effaces, and then restores, individuality as such. "Immersion in water signifies regression to the pre formal, reincorporation into the undifferentiated mode of pre-existence." (Eliade, 130) The initiate is momentarily deprived of the light and space of the upper world, the sky itself, as well, and then reborn in its light. A movement between realms brings restoration, rebirth, transformation.

Along similar lines, we have the common trope of the figure who journeys to the underworld and is then drastically altered or reborn, perhaps through a confrontation with demonic powers or entities. Descent to the underworld amounts to a kind of "initiatory death" which is the turning point leading to "a new mode of being." (Eliade, 42) Examples are plentiful: Persephone partially escapes Hades, bringing the change of seasons; Dante's voyage through the underworld ultimately prepares him for paradise, Christ rose from the dead to save all mankind. Such journeys were fraught with risk for mere mortals, as Orpheus discovered, and even the gods were seldom seen traversing the worlds except in special and specific cases. In Greek and Roman myth, passage from one realm to another was the prerogative of certain divinities, often messengers to the gods (Iris moved between heaven and earth with the rainbow as her trail, and Hermes, who presided over travel, roads and boundaries was able to move between the earthly plane and between the three realms). In Christianity, the son of God visited earth only to be crucified and buried; but his resurrection signaled the rebirth of not only himself but of all humankind, forever, as he rose from the grave through the terrestrial realm of men and ascended into heaven. Moving between the ordinary plane of existence and the subterranean realm,

<sup>&</sup>lt;sup>79</sup> Anything found below that is deemed valuable is systematically retrieved from it, brought above, whether natural resources or significant artifacts of another age.
whether by literal death or figurative, is linked to transformation in one's very mode of being—the figure moving between realms serving as a kind of axis mundi personified. The subterranean quest has its contemporary and secular equivalent in psychoanalysis and "depth psychology." These aim at personal transformation by delving into what is repressed in the "subconscious," bringing it to the light of awareness in hopes of illuminating or changing our habitual behavior and/or thinking.

#### b) The Terrestrial Plane

Between the lower, infernal regions and the upper celestial ones lies the plane of ordinary human existence, the earthly here and now. Here, the three realms intersect to form our habitable environment, the select conditions where life can survive. This space lies between the earth below and sky above; it is their juncture, the expanse of lands and seas spreading to the horizon and beyond. The earth is the domain of living mortals, in contrast to the heavenly realm of the gods, and the sinister underworld of the departed. In the here and now, we work out our destiny and ensure our survival, by whatever means are available.

Such is the region that Heidegger meant when he described the "earth," the natural abode of humans. The earth is our natural home: "To be a human being means to be on the earth as a mortal. it means to dwell."<sup>80</sup> It gives rise to countless and mysterious forms of life, self-reproducing, self-sustaining, human among them. The plenitude, the fertility, and sustaining power of the earth, are evident in his poetic description of the earth, as "serving bearer, blossoming and fruiting, spreading out in rock and water, rising up into place and animal."<sup>81</sup> Humans dwell side by side with other creatures, equally at home here.

Yet humans, though they share the earth with natural beings, are distinct from them. Traditionally, this difference resided in the notion of immortal soul, or in our possession of reason (often considered divine, or at least superior to the senses). With reason comes freedom, and with freedom comes choice, responsibility, self-definition. The terrestrial plane, the surface of the earth, is, for humans, the realm of human activity and choice.

The horizontal plane lies open to us in all directions, open to exploration, attainable by our efforts. The terrestrial realm, then, is the human world of concrete action. It is here that we work out our individual and collective destinies, grapple over boundaries, establish our personal or social territories. It is the plane on which we wend our way to some destiny, where we wander or settle. It lies open for exploration, mapping, and settlement, often brought under some form of human control. <sup>82</sup> This vast horizontal plane, the domain of human action, is basically the same in all directions;

<sup>&</sup>lt;sup>80</sup> See Heidegger's essay "Building, Dwelling, Thinking" in *Poetry, Language and Thought*, ed. A. Hofstadter (New York: Harper and Row, 1971), 147. Hereafter cited as BDT.

<sup>&</sup>lt;sup>81</sup> BDT, 149. So too do various creation myths hold the earth to be feminine, (personified in the goddesses Gaia and Tellus Mater) as well as source of the first humans.

<sup>&</sup>lt;sup>82</sup> Yet our desire for optimizing conditions of our lives is such that we risk letting the practical activity dominate all others, Heidegger warned, such that drive to mastery and maximum efficiency becomes the prime, or only motivator, a tendency heightened by technology. At the extreme, we come to see things in their true light and only in terms of their use; we strive for endless optimization and efficiency, eliminating distance and time itself in our quest to make all things

"all horizontal directions are equal and form a plane of infinite extension."<sup>83</sup> Such a plane would be an endless mundane realm, mundane and secular homogeneous space, if not punctuated by significant verticals, i.e. Eliade's axis mundi that serves to symbolically link to earth and sky, and thus ground a given community or world. As we will see below, these form extramundane or existential beacons or landmarks within the otherwise homogeneous plane of the secular here and now.

#### c) The Heavens

The vertical seems to extend indefinitely upwards into the skies, into that glorious realm of the divinities, inaccessible to mortals. Sheer height evokes the otherworldly and divine: "Transcendence is revealed by simple awareness of infinite height" write Eliade, for the "most high" is inaccessible and thus "belongs to superhuman forces and beings."<sup>84</sup> In more concrete terms, it is the order of things in the sky that gives order and life to things in the world. The vagaries of weather dictate survival itself, whether it be warmth or rain or light; the stars and sun help us tell our position in time and space, the changing light affects our mood and sense of beauty. Heidegger famously captures the multifaceted nature of the sky in *Building, Dwelling, Thinking*: "The sky is the vaulting path of the sun, the course of the changing moon, the wandering glitter of the stars, the year's seasons and their changes, the light and dusk of day, the gloom and glow of night, the clemency and inclemency of the weather, the drifting clouds and blue depth of the ether."<sup>85</sup>

The celestial bodies position and motion are the very measure of time, and of space. Since early times, people have kept track of temporal and cosmic cycles in various ways: certain stone circles, layouts of the pyramids, obelisks, clock towers, sundials, and astrolabes. Sunrise and sunset mark the limits, the very horizons of a single day, morning to night; the moon gives us the months; the sun defines the years. We lay out the cardinal directions according to east and west, north and south—indeed the very word *orientation* first meant to face the east. The celestial bodies and their effects are reference points for navigating vast distances along the earth, both for humans and other forms of life.

The skies and phenomena within it lend themselves to deification in practically every culture and era with any notion of the divine. The word for god and heaven is often synonymous.<sup>86</sup> The word for god and sky is often the same, and there are deities that correspond to nearly every phenomenon of weather: wind and rain, sun and moon, storms, winds, tornados and meteors and rainbows.<sup>87</sup> The sky is the site of where the divine resides and occasionally appears in

immediate availability; see Chapter 5 of this study.

<sup>&</sup>lt;sup>83</sup> Norberg-Schultz, Existence Space and Architecture, 21.

<sup>&</sup>lt;sup>84</sup> Eliade, 118-9.

<sup>&</sup>lt;sup>85</sup> BDT, 149.

<sup>&</sup>lt;sup>86</sup> As in Chinese 'Tian', Mongol 'Tendri', Finnish 'Jumala'.

<sup>&</sup>lt;sup>87</sup> The deities of Greco-Roman, Indian, Mesopotamian, early Indo-European, pre-Christian religions, early Egyptian and Mesoamerican religions reside in the sky, as do those of Judaism, Confucianism, Islam, Christianity and many folk religions. As for the divinization of celestial phenomena, Zeus is just one of many to wield a lightning bolt. Nordic, Chinese, Navajo, and Mayan gods also possessed this weapon, a common symbol of divine wrath. Solar deities are found

sensible form, via the weather phenomena that appear to be expressions of divine power. For Eliade, the celestial god reveals himself "by what is specifically and peculiarly his—the majesty of the celestial immensity, the terror of the storm."<sup>88</sup> Of all these varied celestial phenomena, the one that came to be most closely associated with the divine, particularly in Christendom, was light itself.

The sky is characterized by light itself, whether filled with brightness and color by day or sparkling dimly with constellations by night. The sun's light provides orientation in various ways: plants and trees grow towards it, animals need it to see and orient themselves, and for humans it also establishes the cardinal directions. Since the sun's light is what renders the world visible and thus intelligible, it became the quintessential symbol of knowledge, truth and goodness. The significance of light in the western tradition, from Plato onwards, cannot be overstated, whether in religion or philosophy. More than a symbol, the phenomenon of light implicitly contained an entire metaphysics.<sup>89</sup> For light itself is of a different order than the illuminated: immaterial and invisible, it appears to us only when it lights up that which it is not, i.e. the material, thus it "is not of the same nature as that which it evokes;" it is transcendent, over and above what it shines upon, unchanged though all things participate in it. <sup>90</sup> Similarly, divine truth and goodness are also transcendental properties common to all beings. They too render the world intelligible while differing in nature from what they enable to be known. The truth is thus "a light upon being itself', suggested Plato, for "as goodness stands in the intelligible realm to intelligence and the things we know, so in the visible realm the sun stands to sight and the things we sce."<sup>91</sup>

Originally a metaphor for knowledge and insight into the form of the good in all domains, light became deeply woven into the Christian tradition, which identifies light with truth and goodness, and with Christ himself. The latter called himself "the light and the life and the truth."<sup>92</sup> Augustine equated goodness with light and darkness with evil, holding the latter to lack reality of their own, being merely the absence of the former. Light was so intertwined with divine presence that Christian figures were shown to be holy through haloes--rings of golden light--indicating their sanctity and spirituality. Ultimately, this same golden, otherworldly light would come to fill the entire sky of religious

worldwide: Horus, Aten and Ra in Egypt, Saulė in Baltic mythology, Incan Inti, Roman Helios, to name a few. Lunar gods and deities of the night are also common.

<sup>&</sup>lt;sup>88</sup> Eliade, 121.

<sup>&</sup>lt;sup>89</sup> See Hans Blumenberg, "Light as a Metaphor for Truth" in *Modernity and the Hegemony of Vision*, ed. David Kleinberg-Levin (The University of California Press, 1993), p 33. The light "conquers without force" insofar as it illuminates the entirety of beings without altering them (Blumenberg, 33). It enables vision itself, and with it, the spatial world. Immaterial and illuminating, it is a symbol of truth and knowledge, of goodness and holiness. The absence of light, darkness, is the "absolute metaphysical counterforce," emblematic of evil, blindness and ignorance, conditions that are always opposed to light and demanding to be overcome.

<sup>&</sup>lt;sup>90</sup> Blumenberg, "Light as a Metaphor for Truth," 33.

<sup>&</sup>lt;sup>91</sup> Plato, The Republic, 508b.

<sup>&</sup>lt;sup>92</sup> The ray of light was an apt metaphor for the triune god; the son's consubstantial relation to the father was exemplified in the ray of light emanating from the sun.

imagery in the later middle ages.<sup>93</sup> Such light hearkened back to the metaphorical, otherworldly light that Plato held to be the very medium of truth and knowledge. This golden luminosity of the sky, of space itself, seems to show divine truth and goodness as constituting the very fabric of the cosmos.

In short, all three realms, sky, earth, and underworld, belong together; they are intertwined and inseparable, all contributing equally to the mode of our collective existence. Human life unfolds on the terrestrial plane, but it is always influenced by the skies above. The celestial realm has long been regarded as where divinities reside, a luminous realm with heavenly bodies that once seemed perfect and eternal, not subject to the weight and decay of the material world.<sup>94</sup> By contrast, the underworld below us is the realm of matter and darkness, where things yield to their weight, to which our bodies ultimately return. Here we find the subterranean world of the dead and buried, and the unknown resources of the earth. Between the upper and lower realms lies the realm of human inhabitation, the terrestrial plane of land and sea. The later realm is that of mortal creatures, from which we draw sustenance and life. This domain is marked by human activity; settling and wandering. It is influenced by the skies, from the changing weather to the fixed stars to the luminosity of the light to the very ordering of time itself. It is sustained by the realm below, on which we build the foundations of our world and where life is invisibly rooted.

### 5.2.3 The Vertical Axis in Sacred Space

I have dwelt at length upon how the symbolic power of the axis mundi derives from the qualitatively different regions that it interconnects: earth, sky, and underworld. Its full significance goes beyond this, however, for it also serves to organize what Eliade refers to as sacred and profane space. Sacred space exists where the divine, or signs of it, is said to have appeared. Here a heightened level of reality is revealed, a place "where being is most fully manifest."<sup>95</sup> Sacred space is surrounded by profane space, "a formless expanse" that is homogeneous and endless, lacking any clear orientation or center, according to Eliade.<sup>96</sup> The site where the divine has appeared is experienced as a break with the ordinary, a place that opens onto a different level of being. It is often marked with the axis mundi, which bridges the

<sup>&</sup>lt;sup>93</sup> The ascription of divine connotations to light led medieval painters to seek worthy medium for its depiction. They turned to pure gold as the only worthy medium. The halos around divine figures, the rays of divine light coming from above, and eventually, the entire sky would be rendered in the warm gleam of the precious metal. Historian Fred Kleiner writes, "the immaterial blue of the physical world has given way to the otherworldly splendor of heavenly gold.... The ethereal golden background as well as the weightless figures...would soon become the norm in byzantine art..." See Gardner, Helen, and Fred S. Kleiner, *Gardner's Art Through The Ages: A Global History*, (Belmont, CA: Wadsworth, 2008), 248. A sky entirely filled with gold, an incorruptible and precious substance, formed an ethereal background that seemed full of the divine light. Painted blue skies would emerge later, with the Renaissance's turn to the human sphere.
<sup>94</sup> The ancient Greeks considered the upper realms as more perfect than those below. The Earth was made up of 'corruptible' material elements, in contrast to the seeming perfect and changeless celestial bodies--undignified materials such as mud and dirt were even exempted from having a 'form' by Plato. Damp, heavy, cold, and formless, the subterranean realm is where nature and its cycles, not human design, reign supreme.

<sup>&</sup>lt;sup>95</sup> The axis mundi at the site of the hierophany marks the center of the world: "Because the axis mundi serves as the locus where cosmic regions intersect and where the universe of being is accessible in all its dimensions, the hub of the universe is held to be a place sacred above all others. It defines reality, for it marks the place where being is most fully manifest" (Eliade, 26).

<sup>&</sup>lt;sup>96</sup> Eliade, 20.

earth and sky and thus provides a symbolic point of *rapprochement* between gods and humans and their respective realms.<sup>97</sup>

This site of the hierophany plays an important role in the constitution and configuration of the world of its inhabitants. For Eliade, a person of religious temperament seeks to live within sacred space, in proximity and in relation to the divine. "Religious man feels the need always to exist in a total and organized world, in a cosmos" and moreover to live at the center of this world.<sup>98</sup> The hierophany, whether discovered or projected, provides the setting for a symbolic re-founding of the world itself. Once the divine has once manifested itself, the community thereafter repeats or commemorates this original sacred occurrence, preserving it on the temporal plane through rituals and on the spatial through the marking of sacred places, often with an *axis mundi*. By preserving it and setting it at the center of their world, the group "takes possession" of the territory as their own. <sup>99</sup> A newly consecrated space is thereby founded, suited to human inhabitation. Without such centers marking sacred space, the world remains entirely homogeneous and profane for the religious person, and in a sense, unreal.

The site of the hierophany becomes the fixed and absolute center and the "central axis for all future orientation."<sup>100</sup> All the other directions and places are projected from this point. St. Peter's in Rome is a center of Christian spirituality, so too are pilgrimage destinations of Mecca (birthplace of Mohammed) Santiago de Compostela (resting place of St. James), and the Bodhi Tree, (where the Buddha received enlightenment). These examples serve as the central points for entire religions, but the axis mundi and sacred center can also be found at smaller scales, in varied forms of religious rituals and edifices (a sacrifice, a temple) and even in domestic or personal settings (a hearth, a stairway, a sacred grove). What all these instances share is a tendency to posit a center that is fixed and significant, serving to ground the individual and provide a different kind of orientation, beyond mere spatiality but encompassing the latter, to his world.

### 5.2.4 The Vertical Axis in Secular Space

As both philosopher and historian of religion, Eliade based his account of the axis mundi on a vast anthropological survey of traditional and religious cultures. In our more scientific and secular age, does such a schema retain any significance? For the heavens have become empty interplanetary space, the underworld is merely the substrate for cities and storage zone for infrastructure, while our urban centers are clearly practical aggregations more than cosmological anchor points.

Many of the connotations of the vertical: as stable and rooted, as the axis between realms, as connecting sacred realms with mundane, depended on the assumption that up and down were absolute dimensions. The scientific advances from Copernicus to Einstein would change all this: the absolute direction up and down of the geocentric order yielded

<sup>&</sup>lt;sup>97</sup> "This connection of the axis mundi with the full manifestation of being is often expressed as an association with the supreme being to whom the axis provides access" (Eliade, 24).

<sup>&</sup>lt;sup>98</sup> Eliade, 44.

<sup>99</sup> Eliade, 23.

<sup>100</sup> Eliade, 21.

first to a heliocentric cosmos and then ultimately to a relativistic and centerless universe. In this revised world picture, the gravitational lines of force radiate outwards from the center of the earth, like the spokes of a great wheel, indeed, of a sphere spinning in empty space. From the modern age onwards, one no longer looks *upwards* at the sky, but outward, as Maleuvre suggests.<sup>101</sup> Its apparent uprightness is relative to any given position on the earth surface. The vertical's meaning today is thus far from its former one. No longer the axis of ascending perfection in the cosmos, an axis mundi linking different 'cosmic realms'; rather it has become a simple physical force involving mass and gravity (a force exerted by all bodies on all other bodies, in all directions, proportional to their mass and distance).

Yet our lived experience of the vertical-gravity, verticality, uprightness and stability-remains unchanged, and thus the experience of the vertical in the lifeworld is much the same as when the earth was thought to be the unmoving center of the cosmos. In Husserl's bold formulation, "the earth does not move"-at least not in our original experience of it. It remains the point of reference for all other motion and rest, and we are normally never external to it so as to experience its motion. The physical experience of the vertical is a constant: gravity and human physiology have not changed. Lived space is experienced now as it was then, even though we describe the underlying reasons for those experiences differently. The vertical can still thus be regarded as the dimension of rootedness and stability, our ground and foundation-for earthly inhabitants. So too does the horizon remain, for us, the line where the sun rises and sets, where our sense of the "present" begins and ends. Moreover, the vertical axis remains meaningful since it is felt and incarnated in the lived body itself. Beginning with our own upright posture, the vertical is felt both within and without, as it is the axis of balance and support that structures any rising thing or body. As such, it links, both within us and outside of us, the different realms of lower and upper, ground and sky. And it continues to constitute at the center, not only of our own oriented spatiality, but often also that of the larger worlds we create together. The basic continuity in our lived experience means some of the symbolism of the vertical associated with traditional cosmology can be transposed into a modern register. I will attempt to show that the vertical dimension still strongly figures into philosophy and aesthetics, albeit in ways that, independent of any metaphysical assumptions or epistemic questions. For Eliade the power of the vertical, the axis mundi, and the sky is not a question of knowledge or intellect; rather, "the celestial sacred remains active through symbolism" which "speaks to the whole person."102

### a) The Existential Axis Mundi

For architectural theorist Christian Norberg Schulz, the vertical axis or landmark continues to provide what he calls "existential" orientation". It underpins what is for him the basic model of existential space, namely, "a horizontal plane pierced by a vertical axis."<sup>103</sup> Existential space, as Norberg-Schultz describes it, is meaningful, oriented, and organized,

<sup>&</sup>lt;sup>101</sup> Maleuvre, 177.

<sup>&</sup>lt;sup>102</sup> Eliade, 129.

<sup>&</sup>lt;sup>103</sup> Norberg-Schultz, Existence, Space and Architecture, 21.

and thus provides the "stable image" of our surroundings needed for us to feel at home in the world.<sup>104</sup> A prominent vertical element serves as a point of rest and certainty; it centers a given region. Visually dominant, linking earth and sky, a vertical axis stands out prominently from afar and can therefore orient all see it. It forms a central, fixed reference point around which the surrounding region is oriented and structured. For Norberg-Schultz, the significant vertical is a place "which unites earth and sky" and where all "all horizontal movements come to an end." <sup>105</sup> The vertically anchored center creates a place unto itself, delimiting a center and implying a boundary (actual or visual); thus it helps structure an inside and outside. Space thus defined becomes a place, with a unique character and a sense of "here" as opposed to "elsewhere, *en route.*" <sup>106</sup> A center, marked by a vertical, is linked to the surroundings and to other centers, by paths leading towards and away from it the point of departure and return, on the terrestrial plane.

As a concrete and meaningful focal point for a given place, a vertically marked center unites a community both literally and figuratively. Its significance is particularly strong if it marks a public site of religious, national or historical importance, or a place key to a people's collective identity. For Eliade, the world circumscribed by the scope of an axis mundi was a religious community gathered around a sacred center, but in the existential sense used by Norberg-Schultz this region or community can be any group that shares a common identity: an academic or scientific organization, a financial system, a network of artisans. All have their center which unites, governs, and helps sustain their very continuity and identity. Great civilizations and organizations are not only structured around a center of power—singular cities with their own unique centers, monuments and institutions—they are also practically identified with them.

The vertical, as a defining center, also necessarily involves a periphery, an end to the region in which it serves as the central and authoritative reference. This center-periphery scheme can occur at any scale. Prominent domes and towers serve as national symbols; urban squares that are open to the sky tend to be the center of the city; and the home and hearth (or garden) is where personal life is rooted. If the region is circumscribed by a boundary, this too occurs on various scales, with walls or ring roads, a moat or river, a garden or fence. In all cases, the horizontal plane and vertical realms are set into relation by a point and circumference – much like the human body lies at the center of a horizon. Indeed, for Norberg-Schultz, this center-periphery scheme recapitulates the basic model of existential space, "a horizontal plane pierced by a vertical axis."<sup>107</sup>

This existential version of the vertical axis differs from the axis mundi in that it no longer circumscribes a consecrated region by marking the central site of the hierophany. Yet it does still establish a fixed point on the ground

<sup>&</sup>lt;sup>104</sup> Existence, Space and Architecture, (New York: Praeger, 1971), 11. Existential space consists of the recognizable, stable spatial forms that we derive from fluctuating perceptual experiences and find "an existential foothold" (17). It operates at various scales, from the personal and bodily to the public and historical. Within it, we are able to find our place within a "a social-cultural totality" (17).

<sup>&</sup>lt;sup>105</sup> Norberg-Schultz, The Concept of Dwelling: On the Way to Figurative Architecture (New York: Rizzoli, 1985), 22.

<sup>&</sup>lt;sup>106</sup> Norberg-Schultz, The Concept of Dwelling, 23

<sup>&</sup>lt;sup>107</sup> Norberg-Schultz, The Concept of Dwelling, 21.

plane, one that focuses and gathers the territory and its inhabitants, reflects the common values of a place, and gives orientation to the surroundings. The existential vertical axis may still help us to found our own world and find our way in it, and create a home within it. For by marking a center and limits, it defines inside from outside, present from absent, here from there. Such setting of limits is crucial in the eyes of Norberg-Schultz, the foundation of dwelling itself, for "only when man has defined what is inside and what is outside can we really say that he 'dwells'.<sup>108</sup> That Norberg-Schultz uses the term "dwelling" reveals the strong influence of Heidegger on his thinking. The latter provided him with an existential situation and corresponding spatial scheme that enabled him to do justice to the extramundane power and rich symbolism of the axis mundi without depending on the supernatural or religious cosmology that underpins Eliade's three cosmic realms.

# b) The Gathering: Heidegger's Fourfold

In *Building, Dwelling, Thinking*, Heidegger insists that dwelling is not merely having one's address or lodging in a given location. Dwelling is "the manner in which mortals are on the earth."<sup>109</sup> Our condition as earthly and mortal is complemented, circumscribed, by that which is not earthly or mortal; namely, the divinities and the sky.<sup>110</sup> For humans, authentically dwelling comes about when we allow earth and sky, mortal and divinity, to gather the fourfold and allow it to unfold, preserving it, "as a simple unity" in certain situations: buildings, a work of art, a thing, an event.<sup>111</sup> A thing brings together Heidegger's four fundaments of the world, earth and sky, gods and mortals: "A thing stays the united four, earth and sky, divinities and mortals, in the simple onefold of their self-unified fourfold."<sup>112</sup> Jug and bench, tree and bridge, brook and pond, deer and heron, are all *things* which gather this fourfold. So too, do works of architecture. Whether house or village or city, human dwellings "gather the multifarious between....bring the earth as the inhabited landscape close to man and at the same time place the nearness of the neighborly dwelling under the expanse of the sky."<sup>113</sup>

Norberg Schultz interprets Heidegger's notion of dwelling as gaining a "foothold" in existential space. A settlement is "an answer to the original problem of finding a foothold in a given world" and establishing a "meaningful relation between man and a given environment."<sup>114</sup> Such a foothold is needed at various scales corresponding to various aspects

<sup>&</sup>lt;sup>108</sup> Norberg-Schultz, Existence, Space and Architecture, 25.

<sup>&</sup>lt;sup>109</sup> BDT, 148. Dwelling is thus inseparable from our finitude, mortality, and contingent existence, for "human being consists in dwelling and, indeed, dwelling in the sense of the stay of mortals on the earth" (BDT, 149). The earth is an existential structure of our being; our situatedness here (our being-in-the-world) is intrinsic to us. Yet dwelling authentically—as mortals on the earth—is to live in awareness of what is not mortal, not earthly, not human. <sup>110</sup> BTD, 149. When we think of any of these, mortality, divinity, earth, or sky, we are already "thinking the other three along with them" (BDT, 149). Each of the four reflects the others; gathers and unites them. A temple on a mountain bridges the earth it rises from and the sky it soars up into, it hearkens to the need of mortals to gather together and seek communion with the divine.

<sup>&</sup>lt;sup>111</sup> BTD, 151.

<sup>&</sup>lt;sup>112</sup> Heidegger, "The Thing," in *Poetry, Language Thought*, trans. A. Hofstadter. (New York: Harper & Row, 1971), 175. In gathering and unifying the fourfold, a thing "conjoins itself out of world" (182).

<sup>&</sup>lt;sup>113</sup> From Heidegger's Hebel, der Hausfreunde, cited by Norberg-Schulz in The Concept of Dwelling, 19.

<sup>&</sup>lt;sup>114</sup> Norberg-Schultz, The Concept of Dwelling, 13.

of human life, from the personal to local to the collective. Thus one finds the principle at work in distinct ways, distinct elements, ranging from work of art, dwelling, a community.<sup>115</sup>

Even in secular space, then, the vertical retains much of the expressive symbolism of the axis mundi. It remains a powerful model of spatial organization, both of the ground plane and the regions above and below, thanks to the elemental character of these earthly regions and their unchanged relation to us. Its point/horizon structure is akin to the spatiality of the upright human body, for both serve as vertical axis around which space is centered and by which it is oriented. As the axis of balance found in any rising thing or body, as a bridge between earth and sky, the vertical remains a vital locus of meaning. After a long history as the "axis of the sacred", the existential power of axis mundi remains plausible and symbolically legible, even without a religious cosmology. It can still anchor the communities in which we dwell, gathering the mortals together and reminding them occasionally turn their eyes towards the heavens.

## 5.2.5 The Vertical In Art And Architecture: A Phenomenological View

The vertical axis, both religious and secular, has been given particular concrete expression concrete in myriad places and forms. What follows are a few illustrations at different scales and in different media. <sup>116</sup> To begin with, we will look at a domestic version of the axis mundi, the multistory house. Like Eliade, Gaston Bachelard views the house as a microcosm of the universe.<sup>117</sup> With its distinctly different floors of the cellar, main floor and attic, it is a domestic model of the three realms. The vertical stair linking them forms a kind of domestic axis mundi. The house thus recapitulates the distinct characters of the various spaces along a vertical axis, for Bachelard. Having explored how the spaces of a building can reflect the three cosmic regions, I will then look at vertical structures in themselves-their formal and structural articulation, drawing on Rudolph Arnheim's studies. For Arnheim, "being is experienced essentially as verticality."<sup>118</sup> In his view, the expressiveness of a building depends on the particular way that it bridges earth and sky, how it stands and rises, and how it is shaped to bear its own weight. Finally, I will turn to the question of verticality as handled by the Swiss German artist Paul Klee. In the latter's hands, the differentiation of vertical regions became both a powerful compositional tool and an expressive artistic symbol.<sup>119</sup> Yet he also dealt with the dynamics of the terrestrial and celestial realms as such; namely, how the forms of motion characteristic to these upper and lower regions influence

<sup>117</sup> See Gaston Bachelard, *The Poetics of Space*, trans. by Maria Jolas (Boston: Beacon Press, 1969).

<sup>&</sup>lt;sup>115</sup> Eliade similarly saw the axis mundi as structuring the world at all scales. For him it could serve as the center of a microcosm even at the urban or domestic scale. "Cosmic symbolism is found in the very structure of the habitation" he claimed, pointing to the example of nomadic tents that reiterated the circular horizon and vertical world axis.

The cosmic structure is not limited to the house, however. For a religious person, and perhaps a poetically dwelling one, there is a "homology" too between the cosmos in which he dwells, his house and his body. "His dwelling is a microcosm; and so too is his body" (Eliade, 172). Cosmos, house and body and all reiterate the same order, the same "paradigmatic situation"; on different scales. Having a body and dwelling in a house are both ways of taking up a permanent, personal abode, one that nonetheless remains in communication with a higher plane or power (Eliade, 177). <sup>116</sup> Given the variety of instantiations, the examples presented are necessarily somewhat arbitrary.

<sup>&</sup>lt;sup>118</sup> Arnheim, 35.

<sup>&</sup>lt;sup>119</sup> See Paul Klee, *The Thinking Eye: The Notebooks of Paul Klee. Volume I, ed.* J. Spiller, trans. R. Manheim (New York: Wittenborn, 1961).

the movement and growth of all beings within it. His work thus constituted a poetic reinterpretation of the ancient cosmos.

In each of these cases, an artistic or poetic meaning resides in the mode of balancing, bearing and rising, that is common to all beings. The vertical felt in the body is intimately linked to the external vertical in the world, if only because what we encounter visually is akin to that which we feel in our bones. Let me turn now to the first case, the house presented by Bachelard, to see how it serves as a microcosm of the three vertical realms.

### a) Body, House, Cosmos: Microcosm and Macrocosm

The house is vertical and concentrated, for Bachelard. The attic, main living floor, and cellar are all superimposed vertically, and linked by the stair which allows us to ascend and descend (one might see the stair as a kind of domestic axis mundi). The main floors are devoted to daily life, with its ordinary domestic activities, and they are interwoven with the exterior ground plane by doors and windows. On either side of the floors devoted to ordinary life lie the cellar (or basement) below and the attic above. The above and below here are not different cosmic planes, but they do appeal to the imagination in similar ways, for the attic and the basement both allow us to slip away from the ordinary level of daily obligations. Away from the ground plane of shared or public life, we find a place to daydream, or work undisturbed, or simply change the perspective on our habitual surroundings.

The attic, bounded by the roof, forms the "rational" element of the house, claims Bachelard, for the clear structure of the rafters is laid bare, laid out systematically according to the "carpenter's solid geometry." <sup>120</sup> The roof is built up, piece by piece, in accordance with a slope calculated to fend off the elements; its structure and purpose is self-evident. For Bachelard, all this functional clarity causes us to think and dream in a more rational manner. Lingering in these heights, we occupy the "rational zone of intellectualized projects."<sup>121</sup> One might also note, though Bachelard did not, that attics also give us a different perspective on ordinary and familiar spaces. If it has windows, we can see further and more clearly, over the rooftops of other houses. Or we may gain a sense of the smallness and fragility of what seems large on the ground. The new and unfamiliar perspective, from above, is curiously satisfying, in that it completes our sense of the spaces long familiar to us from the ground only. <sup>122</sup> Views from above increase our knowledge, understanding, and orientation.

Descending to the basement or cellar, our experience is the opposite, spatially and emotionally. We tend to be more careful as we descend the steep steps into dark unclarity and likely disorder. The cellar or basement, in contrast to the clear, additive structure of the roof, is formed by digging, and digging further. With no windows, it does not look out over the landscape, like the attic. Instead, it is cold, poorly lit, in danger of flooding, and without egress; it is likely full of

<sup>&</sup>lt;sup>120</sup> Bachelard, 18.

<sup>&</sup>lt;sup>121</sup> Bachelard, 18.

<sup>&</sup>lt;sup>122</sup> Arnheim describes this experience very well: "when a building is seen from above, it presents itself more nearly as a whole... Like a small model, it appears as a work of man, and by reviewing itself and its overall shape, which is hidden to all terrestrial, it endows the viewer with superhumanly complete sight." (*The Dynamics of Architectural Form*, 142.)

mysterious pipes and equipment. Whereas the attic lifts us into higher spaces with unobstructed, free clearances and views, in the cellar we are by contrast aware of walls "that have the entire earth behind them."<sup>123</sup> The absence of light, windows and doors means there is thus no way out, imprisonment is even evoked, insofar as for Bachelard "the cellar then becomes buried madness, walled-in tragedy."<sup>124</sup>

Underground, we cannot but wonder what lies just beyond the walls of the cellar. In a denser urban area, it is likely to be a vast tunnel of infrastructure (carrying water and sewage, electricity, tunnels for transport) or the cellars of homes adjacent to ours. In a sparse area, what lies without is the brute matter of the earth, populated by whatever dwells in the deeper bowels. The cellar is a bulwark against the subterranean forces of nature, in contrast to the attic and its structured logic, reminiscent of rationality and clarity, for Bachelard.<sup>125</sup> Finally, since the basement lacks windows, the outer world is entirely blocked out so that we are no longer oriented to outside reference points.

Bachelard declines to spell out what is somewhat obvious: the basement, divorced from the reality of daily life, becomes the place of that which is not meant to be seen: our outdated furniture, old tools, things we cannot bring ourselves to throw away. There is always the risk of flood, and thus confrontation with uncontrollable elements. It is the perfect metaphor for the unconscious, a place of buried, unconscious or semiconscious feelings, of all that is not meant to be seen, like the content of our repressed fears. We might dream (or daydream) about finding a tunnel system beneath, that we can explore further, burrowing past the ordinary boundaries, making breakthroughs, mapping the mysterious terrain below that is only loosely connected to the visible and familiar terrain above.

The idea of the basement as the site of unconscious feelings emerges in Bachelard as well. He presents as archetypal a certain kind of fantasy in which one's own cellar stretches further into the surrounding spaces, well beyond the property's limits above ground. In such imagery, one "advances subterraneously" under the surrounding houses, into distant forests, etc., ultimately spreading to the "the four cardinal points of the underground horizon."<sup>126</sup> Such dreams represent "the intimate space of underground maneuvers" in which "secrets are pondered, projects are prepared, action gets under way."<sup>127</sup> If the subterranean zone represents our own subconscious thoughts, which are linked in ways we can hardly understand clearly, for Bachelard it seems to also represent our relations to others.<sup>128</sup>

Between these two evocative realms of the attic and cellar lie the ordinary spaces where practical, quotidian activities hold sway; coming and going, dining and socializing, resting and caring for oneself and others. These spaces lie

<sup>&</sup>lt;sup>123</sup> Bachelard, 20.

<sup>&</sup>lt;sup>124</sup> Bachelard, 20.

<sup>125</sup> Bachelard, 18.

<sup>&</sup>lt;sup>126</sup> Bachelard, 21. Bachelard speaks of dreams yet cites literary examples, so I have opted to call these images "fantasies." <sup>127</sup> Bachelard, 22.

<sup>&</sup>lt;sup>128</sup> A kind of symbolic conglomeration of our tangled relations with others, an overlapping of our physical, thus bodily needs, is present also in the subterranean infrastructure of our larger cities. The urban underworld is served by a maze of tunnels for shared transportation, tangled networks of pipes for water and waste, communications and power. These weave through archeological layers of obsolete services: abandoned subway lines, air raid shelters, crypts filled with piles of anonymous bones, a secret military network, etc.

on the plane of the wider public world, enabling entry from and exit to it; they provide respite from it while maintaining a connection to it. Situated between the rational solitude of the attic and the dark irrational moods of the cellars, they are integrated with the public world and lie on the same plane with it.

The attic, basement, and ground floor are all linked by the central stair by which one moves between these various zones. Our movement of ascent and descent along the stair is so powerful, holds Bachelard, that it remains among our vivid memories of earlier houses we might have inhabited. In our recollections, "everything that ascends and descends come to live again dynamically." <sup>129</sup> Notably, this movement seems tied to the destination above or below, for we recall going up to the attic, or down to the cellar, but not the reverse.<sup>130</sup> When we ascend upwards, it is in anticipation of a "tranquil solitude," for in general we ascend to the heights (attic, towers) to dream and to plan, removed from mundane cares for a while.<sup>131</sup> Climbing many flights of stairs is even associated with a certain "heroism," for Bachelard, since it takes a sustained effort.<sup>132</sup>

Bachelard gives a specific and evocative scheme in which the different vertical spaces of the house can harbor poetic and emotional resonance. A poetically constructed house thus can provide a personal existential foothold, recapitulating to a certain degree the nature of the three vertical realms. The house, like the human body, is grounded below so it can better rise to the sky; it links these via the stair, or the chimney, which allow movement up and down. The different vertical realms are not only reflected in the different areas of the house, but also the very way that a structure is articulated from bottom to top. As we saw earlier, the bearing of one's own weight can become a mode of expression, in figurative sculpture and in the human body. This is equally true of architectural form.

### b) Between Earth and Sky: Standing and Rising

Just as the bearing of weight was, for Simmel, a chief means of expression conveyed by the human figure, so too does the expressiveness of a building have to do with how it rises up and supports its own weight. The particular way a building rises and reposes" speaks to us, claims Arnheim, because the very sense of bearing weight and reaching upwards is "at the very core of the human sense of what life is..." <sup>133</sup> His idea that "being is experienced essentially as verticality," implies that verticality means becoming independent of the material substrate of the earth while remaining connected to it. In Arnheim's words, "To come into existence means to detach oneself from the earth, be it by organic growth of plants or the upward thrust of mountains or by their human equivalent, building. In daily visual experience a thing or

<sup>129</sup> Bachelard, 26.

<sup>&</sup>lt;sup>130</sup> Bachelard, 25.

<sup>&</sup>lt;sup>131</sup> Bachelard, 26.

<sup>&</sup>lt;sup>132</sup> Bachelard, 27. This kind of drama has vanished from the urban high rise, where the convenient mechanics have made stairs largely unnecessary. Ironically, no matter how high the floor in such a building, there is little sense of living far above ground, insists Bachelard, given the lack of high spaces, and the layers of similar low-ceilinged floors, stacked like pancakes. In such cases, "home has become mere horizontality" he writes, for moving from the ground floor to the highest in such buildings requires only a step forward and the push of a button--both purely horizontal gestures. <sup>133</sup> Arnheim, 45.

creature shows up by rising above the ground ... "134

A work of architecture consists, in part, in the very resolution and engagement of these forces; namely, of verticality, rising, resting. The vertical axis in architecture is expressive because buildings respond in myriad ways to their internal forces of weight and balance, and because they are carefully designed to visually express these forces, this act of standing, rising, balancing.<sup>135</sup> It is the façade of a building that most clearly presents the different zones of the vertical, as it is composed of a base, the middle, the top. Thus the facade is the primary expression of grounding and rising, of balancing and bearing. Every building, the epitome of stability, rests upon in some kind of foundation or base that ties it to the earth both physically and visually. From this base, the vertical walls rise up, opening to admit light and air. Over this whole, a roof and ceiling links the building to the sky, forming a skyline from without, or an all-encompassing upper plane (a sort of interior sky) from within. In a work of architecture, this set of elements is articulated or shaped in a way that goes beyond mere function or mechanics. Norberg-Schultz, for instance, sees even a simple wall as a potential meeting of "earth and sky," able to articulate the character of a given place and its inhabitants.<sup>136</sup> For instance, a wall can be ornamented or severe, have apertures or none, be permanent or provisional, be solid or transparent.

The way a given structure takes shape under the various structural forces is not merely a response to structural challenges or need for stability. Rather, structural form becomes expressive by taking a purposeful approach, a tectonic or formal attitude, to this question of material weight and stability. Qualities like straightness or flexibility, extension or contraction, openness or closeness, take on expressivity because we experience them in relation to more general ways of being and behaving, or of standing and rising.<sup>137</sup> A heavy or thick base of wide horizontal elements gives a sense of stability and repose, and ties the building to the ground. Thin or attenuated verticals pull the eye aloft and skyward, as evident in gothic architecture, whose walls seem so little unencumbered by their weight, or similarly in the Eiffel tower, with its graceful curves lending a smooth upward visual momentum. Norberg Schultz highlights too the importance of reaching upwards, since "vertical lines and forms express an active relationship to the sky and a wish for receiving light."<sup>138</sup>

In religious architecture this upward direction, this weightlessness and light, seems like an aspiration for heights or the heavens, or a bridge between earth and sky. The paradigmatic structure that reaches upwards to the light, in western

<sup>134</sup> Arnheim, 35.

<sup>&</sup>lt;sup>135</sup> See "The Vertical and the Horizontal" in Arnheim's *The Dynamics of Architectural Form*, esp. 46-49. Arnheim distinguishes visual weight from actual weight. The load does not appear the way it "is" (47). More specifically, our visual field itself tends to focus on "centers" so that "every object within a visual field constitutes a small gravitational center of its own" (46). The ground is of course the strongest visual center, so that buildings do indeed appear heaviest at their base, but as one's eye rises it finds "other, weaker centers of weight that increase in power and independence", according to Arnheim. The upper reaches of a very tall structure may seem to float more free from the ground, pressing down less forcefully than in actuality: "they seem loftier, easier to carry"(48).

<sup>&</sup>lt;sup>136</sup> Norberg-Schultz, The Concept of Dwelling, 27.

<sup>&</sup>lt;sup>137</sup> Arnheim, 36-37, 45. "The ratio between rising and reposing, lightness and weight, independence and dependence, is at the very core of the human sense of what life is and ought to be, and as such is it a principle variable of style" (45). <sup>138</sup> Christian Norberg-Schultz, *Genius Loci: Towards a Phenomenology of Architecture* (New York: Rizzoli, 1980), 66.

architectural tradition, is the Gothic cathedral. Grounded deep in stone rubble foundations and an ancient icy crypt, the stone ribs soar freely upwards into the light; between earth and sky the path is laid out for the faithful to walk eastwards into the light. It thus spans the three realms, from the stone crypt and foundations to its looming towers and delicately rising spire, forming a kind of axis mundi unto itself, the skeletal stone vaults stretching ever higher.<sup>139</sup> Indeed, aiming for transcendence through physical height is common to much religious architecture, as is evident in the variety of minarets, spires, stupas, vaults and domes respectively shaped by the various major religions.

Contemporary high-rising structures have more worldly connotations. While high places have always been strategically ideal for fortresses and palaces, the height of a building has served as an index of victory in the marketplace or perhaps the political arena ever since the medieval age. "High up is the position of the watchman, of the custodian and the judge, surveying good and evil deeds. Looked at from below, the tower is an admonition, a center of orientation" observes Arnheim.<sup>140</sup> The tallest structures in modern society thus reflect our primary values and provide existential orientation, albeit on a far more secular plane. Today's tallest structures are most often associated with wealth, public or private power, security, and authority: corporations compete for prestige with ever taller headquarters; governments erect monuments to their purported ideals, radio and communications towers testify to the importance of timely public information. Notably, a new type of skyscraper has emerged in urban centers as the very incarnation of highly concentrated wealth. Pencil thin residential towers, now among the tallest buildings in the world, are stark and dramatic symbols of power and status in the financial domain.

What is the great appeal of living high above the ground? It seems to exert a basic fascination, regardless of whether gods or humans hold that position. In rising high above, does one seek to dominate or oversee the world? Or is it a wish to draw closer to the skies, to the air and light? What about the upper reaches seems to make it a realm unto itself, so different from the one we know?

### c) Cosmic and Terrestrial space: The Circle and the Cross

We have seen Bachelard's evocation of the different regions of the house, with attic, ground plane, and basement embodying three poetically distinct domains. We then explored how all works of architecture must address this relationship between earth and sky, and express their character in their bearing. But what of the directions of upward and downwards in themselves? Once an absolute direction of ascending perfection, rising from the underworld to the heavens, the vertical is merely the line of gravitational force. If the earth is stable and central only in appearance, can there be any meaningful differentiation between cosmic realms that once considered so metaphysically distinct?

One avenue by which we might answer this question is to turn to the arts, particularly that of painting, as it consists in an individual's purely imaginative recreation of his or her view of the world. Paintings consist, quite often, in a

 <sup>&</sup>lt;sup>139</sup> The lingering power of the vertical in religious architecture was evident in the dramatic public response to the collapse, during the fire of 2019, of the roof and spire of Notre Dame in Paris.
 <sup>140</sup> Arnheim, 65.

formally composed representation of earth and sky and the human figure's position in relation to them. All figurative paintings reckon with the above and below, and the horizon. A horizontal line placed on a page or canvas immediately reads, to the human eye, as a division between earth and sky; above and below. Particularly in landscapes, the horizon line becomes a vital compositional element: earth and sky must be considered and balanced.<sup>141</sup> The character of each of them, and their relation to each other, is a matter of artistic choice and expression.

A painter who explored the deeper nature of the relation of earth to sky, and their nature, was Paul Klee. One of the defining artists of the 20th century, he created an aesthetic order that was deeply based on process, dynamics and growth. He depicted nature not at a given moment but as it resulted from the forces at work in it over space and time.<sup>142</sup> He ultimately created a new aesthetic order based on his ideas of balance and movement, including cosmic versus terrestrial movement. He distinguished the earthly and cosmic domains by their forms of characteristic motion, as if hearkening back to Aristotle.

For Klee, the earth is the static realm, where gravity pulls all things to their rest. Gravity ends motion; it 'kills motion by subjugating it to an alien law," unless some momentum or will to counteract it.<sup>143</sup> Terrestrial forces tend towards rectilinearity, governed by the gravity's downward pull and the need to balance against it. All physical beings must stand upright, around an axis, and find their balance around it, horizontally. In this way they come to rest: motion tends toward a static resolution of horizontal and vertical forces. On earth, then, all beings are "rigidly bound to the vertical."<sup>144</sup>

In the heavens, however, beyond the pull of gravity, the conditions are entirely different: "there are regions in which other laws are in force, for which new symbols must be found, corresponding to a freer movement and more mobile localities."<sup>145</sup> If stability is the "hallmark of earthly statics" then "dynamism is the hallmark of cosmic space."<sup>146</sup> Above the earth, stability and equilibrium are attained by "settled harmonization and free mobility."<sup>147</sup> Gravity is powerless to bring motion to rest, or force stabilization around a vertical axis. The stable state for things in the sky is therefore one of unending circular motion. What is no longer earthbound tends to move freely and spontaneously, without sharp or sudden turns; things float about, turning in loops and in curves. Drifting clouds, the distant curve of a shooting star, musical tones, the hovering moon, all share this same weightless dynamism. Celestial bodies are mobile without heaviness, have fuller freedom of movement, being "not obstructed by any attraction as on earth."<sup>148</sup>

<sup>&</sup>lt;sup>141</sup> Not only does it create distinct regions, it is where all lines visually converge at infinity.

<sup>&</sup>lt;sup>142</sup> As Klee wrote, "Ingres is said to have created an artistic order out of rest; I should like to create an order out of feeling and, going still further, from motion." (*The Thinking Eye*, preface, iii)

<sup>&</sup>lt;sup>143</sup> In Klee's words, "Dynamics is the great, the principal area, the endless area of the cosmos. Statics, by comparison, is an exception, where gravitation kills motion by subjugating it to an alien law" (183).

<sup>&</sup>lt;sup>144</sup> Klee, *The Thinking Eye*, 182.

<sup>&</sup>lt;sup>145</sup> Klee, *The Thinking Eye*, 313.

<sup>&</sup>lt;sup>146</sup> Klee, *The Thinking Eye*, 182.

<sup>&</sup>lt;sup>147</sup> Klee, The Thinking Eye, 182.

<sup>&</sup>lt;sup>148</sup> Klee, The Thinking Eye, 395.

Klee's schema is reminiscent of Aristotelian cosmology in certain respects: for the latter, the natural motion of terrestrial entities was vertical and linear, heaviness defined as moving naturally towards the center while lightness consisted in moving naturally away from it. <sup>149</sup> Earth and water fell straight downwards, air and fire rose straight up; but the celestial bodies moved in ceaseless circles –a motion considered perfect insofar as it returned to its origin. <sup>150</sup> Thus the stone and the moon follow different kinds of natural motion because they belong to different realms; the terrestrial and celestial.

Yet Klee leaves aside Aristotle's ontological distinctions between terrestrial and celestial regions, retaining only the phenomenologically accurate distinctions of rectilinear and circular motion.<sup>151</sup> His work goes on to explore the effects of these different sorts of motions on earthly beings: how they shape our trajectories, forms, and experiences. He focused on the poetic and emotional overtones of balance and weight, horizontality and verticality. "Pathos is expressed in art as a motor impulse off the vertical, or as denial or disruption of the vertical."<sup>152</sup> Everything under the sun has to reach some compromise, find some adaptation, to be able to move freely as it can, despite the constraints. For Klee, the question of balance around an axis is a key organizing principle, both of the form and expressive content. (Adding tone and color to the picture greatly complicates the dynamic; for visual balance is never literal—a replica of the physical--but must reckon with the demands of perception.)

The human figure loomed large in Klee's imagination, for it lies at the convergence of the terrestrial and cosmic orders of motion. Subject to gravity and balance, Klee's figures mutely yearn to move like those things above. He compares the human body to a cross, since the cross is the most basic form illustrating the perpetual tension and balance between horizontal and vertical (and which also recalls the body's vulnerability on earth.) This cross schema appears over and over, as a tightrope walker, as a pair of scales. The former uses the laterally extended pole to "hold the force of gravity in balance" and acts himself as "a pair of scales."<sup>153</sup> Humans, living crosses and scales, are perpetually balancing these two rectilinear forces: the vertical that pulls us down (forming the axis) and the horizontal that balances us around it.

Yet there is a daily reminder, in the sun and stars and light, and also in the water and air, of another realm, where those "other laws" govern (laws that, while primarily physical, also have psychic and aesthetic implications). Up in the

<sup>&</sup>lt;sup>149</sup> Unnatural motion, for Aristotle, is motion by constraint that temporarily alters the natural motion inherent to all simple bodies.

<sup>&</sup>lt;sup>150</sup> In the Aristotelian cosmos, a "finite, closed, and hierarchically ordered whole", a being's position along the vertical axis was an index of its very perfection and value (Koyre, 2). "The hierarchy of value determined the hierarchy and structure of being, rising from the dark, heavy and imperfect earth to the higher and higher perfection of the star and heavenly spheres" (ibid). In Christian times, the outer realms beyond the spheres came to be associated with the Christian god, creator of the cosmos.

<sup>&</sup>lt;sup>151</sup> In the world as we encounter it, the earth indeed seems immobile, so that vertical motion and horizontal balance are "phenomenological absolutes", so to speak, with which we reckon. The heavens above meanwhile seem to circle around us, determining our day and night, seasons and years; source of light and life.

<sup>&</sup>lt;sup>152</sup> Klee, *The Thinking Eye*, 191.

<sup>&</sup>lt;sup>153</sup> Klee, The Thinking Eye, 197.

cosmic realm, the cross gives way to the circle. The arc of the sun and star, the curving paths of flight, the hollow spheres of domes, the delicate whorls of clouds and snowstorms, all partake in the circular, endless motion beyond the reach of the earth. Klee's landscapes in particular, are composed around these basic forces shaping sky and earth. *In View of Kaironan*, a cluster of cottages seems like a rectilinear grid of colors, relieved by the occasional semicircular dome reaching skyward. *In Fire at the Full Moon*, a vast yellow hovers remotely, while a cross shaped fire burns in a field of squares.



Aspiration towards the cosmic realm.



Happily, some echo of the cosmic order is found even on earth, even within reach. In any body of water, the pull of gravity grows faint. Beings immersed in water echo the motions of bodies in cosmic space: gliding in all directions, turning freely, Klee gives a charming account of the delights of being waterborne, which also point to the deep transformative and spiritual value Klee ascribed to movement: "The atmospheric zone, and its heavier sister the watery zone, can lend us a helping hand by which eventually to reach cosmic space. In water, as every swimmer knows, the new element and its increased weight makes the earth's force of gravity work upwards, in the opposite direction. But with a little effort a diver can master the depth of the water like a fish, or like the bird that masters the heights of the air." <sup>154</sup> The fluid element of water lets us float and dive, free of the need to balance on an axis, and mirroring the motions of the heavenly bodies.

Fish, boats, water, are thus much more than playful visual motifs for Klee. They evoke a different realm in which other laws of motion hold sway, one in which the axes of the body, the axes imposed by gravity, the horizontal and vertical, are suspended or absent. In the depths of a lake or ocean, we move freely in any direction, free of the need to balance or stand upright. The space of water is the same in all directions, marked by gradations of light and color, unstructured by verticality and consequent horizontality—nothing but extension and depth.

Klee's fantastic cosmic space, free of gravity, has no inherent dimensions; it would thus be a space in which no anchoring to the vertical or horizontal takes place. Would we not be earthly creatures free of earthly moorings, oriented to nothing on earth? Inhabiting such a space would involve a bodily orientation/anchoring that we can only guess at, and an experience of motion of which we can only dream. It implies a different relation to the objective world, if any. Klee has created a powerful symbol of transcending mortal limitations, through spatiality and motion alone.





<sup>154</sup> Klee, *The Thinking Eye*, 313.

#### 5.2.6 Conclusion: the Human Figure as Axis Mundi

The vertical in the form of an axis mundi can be seen as the central organizing point of a given community or world. For Eliade it traversed three distinct cosmic regions, traversing the extreme regions of heaven and hell, life and death. When ancient cosmological models were supplanted by the modern one, the vertical became relative rather than absolute. Yet from our perspective, the earth does not move; like the body itself, it is the very basis for our perception of all other motion and rest. Thus from a phenomenological perspective, these three realms—celestial, terrestrial, subterranean—retain an ineluctable but unshakable poetic significance. For in many ways, our experience of them is a constant. The sky still harbors the entities that guide humans and enable them to have a more spiritual and ordered existence on earth. The earth is the infinite plane where we mortals work out the trajectory of our lives amid others, surviving by the grace of nature but scheming to master it everywhere. The region below is where we bury, literally and metaphorically, what we must be returned to the natural cycle of birth and decay, or what we hide from view-- from sewers to secret tunnels to bunkers to unacceptable thoughts. Our experience of the vertical axis, and the various regions it spans remain sufficiently intact for their former meanings to speak to us, despite changes in the cosmic picture.

Indeed, certain phenomenological accounts of place are oddly reminiscent of the prescientific, i.e. religious and traditional, values assigned to the vertical. Heidegger's fourfold recalls Eliade's axis mundi insofar as the human plane, the world, is put into relation with earth and sky, mortals and divinities--echoing the axis mundi's connecting of the here and now with the heavens and underworld. And while the modern secular imagination may balk at the latter, or even at divinities and mortals, it still unwittingly pauses to contemplate the distant spire, a windmill, a lighthouse, a spiral stair, a well. So too did Norberg-Schultz see the vertical axis as capable of providing an "existential foothold" in the modern, centerless cosmos, for it marks and preserves those sites that define a given community. It thus helps to incarnate and consolidate public space.

Finally, we have seen poets, philosophers, and painters give creative and aesthetic interpretations of the vertical in their works. Bachelard's poetics of space discusses how an individual house incarnates a vertical axis, with its different planes--cellar, ground floor, attic—echoing the "cosmic" regions to which they correspond: underworld, earth, and sky. The significance of vertical spaces in the home, such as a stair or chimney, shows how even on an individual scale a kind of domestic axis mundi can exist. Arnheim shed light on the posture and stance of the built world itself, and our relation to the force and strain we see incarnated there. His analysis, like Simmel's in Part I, reads moral and aesthetic qualities, character and mood, in how a being bears up under its weight and extends up into the sky. The character of a building comes from how it presents its own lightness and heaviness, its own bearing up and degree of openness or stability. Finally, Paul Klee, one of the most original artists of the twentieth century, based an entire visual and compositional system on the traces of Aristotelianism, that is, on paradigmatic forms of motion in the terrestrial and cosmic regions.

Klee's various beings are shaped by laws of space and motion that ultimately reveal deeper limitations and aspirations inherent to their condition. His in-depth study of motion and form, both as experienced and perceived, weighted and weightless, generated a unique body of work based on fundamental aspects of the body's spatiality, and on our perception of those forces governing motion in the world and above it, as well as within ourselves.

Each of these thinkers and artists had their own ways of reinterpreting the vertical for our contemporary sensibility, but all of them retain some of its symbolic and even religious potency. If the vertical axis still resonates with us, as the center of a given world, as a way of standing on earth and rising to the sky, perhaps it is by virtue of its kinship to the human body, and the body's sense of space. Like the axis mundi, each of us is obviously the center of our spatial world (a zero point of orientation), just as each of us is always engaged in standing and rising, caught between earth and sky, bound to the material plane, but with a gaze aimed at the distance, the above and beyond.

The symbolic and poetic character of the vertical axis remains strong, absent its metaphysical justification, or bearing traces of it. Though the old cosmological order can no longer be taken literally, it nevertheless retains a certain existential validity and poetic force.

## CHAPTER SIX: THE HORIZON, THE HORIZONTAL, AND LATERALITY

### 6.0 Overview: the Horizon, the Horizontal, and Laterality

The horizontal dimension is perpendicular to the vertical of gravity. All matter, when it settles and is pulled down by its weight, tends to form a to a flat plane. For terrestrial beings, the horizontal is tantamount to the ground plane, where water and earth tend to settle. Any element that is geometrically aligned with the ideal ground plane is also horizontal, for instance, a low-lying cloud, a desktop, a puddle.

The horizontal ground plane is the foundation for the both natural world and the humanly constructed one. It is where all earthbound creatures run, walk or crawl, where they hunt and dwell and explore (navigation and orientation thus mostly occur with respect to a horizontal plane). An unmoving foundation, it provides stability for things in everyday life: everything we wish to remain in place must rest, balanced, on a horizontal foundation or base, from cathedrals to billiard balls.

The word horizon originally comes from the Greek ὀοίζων κύκλος [horizōn kyklos], "separating circle", which in turn comes from ὀοίζω [horizō], to divine or separate from, delimit, mark out by boundaries.<sup>1</sup> From our earthbound position, it is the horizontal line where the earth meets the sky. It is most evident in wide, flat regions. Though it appears to the observer visually as a line, it also takes the form of a large circle, centered on the observer, since it marks the furthest limits of what the observer can see around him. Thus the horizon marks the limits of our visual perception of space, as is reflected in the Old English word for horizon, *eaggemeare* –"eye-mark"—to indicate the limit of one's view.

Because it marks the maximum range of our vision, the horizon figures into efficient navigation – we steer towards a point on the horizon and use it to keep our bearings. Paradoxically, then, the horizon seems tangible, in a particular location –at the edge of what we can see—and yet it is unattainable; it moves with us, since it is a phenomenon of our vision itself. It beckons us closer, always just out of reach, and intrigues us with its infinite depth. We are drawn to go beyond it, expand it, to somehow transcend its encirclement.

We see a horizon all around us because we are, literally, a point on a plane. The whole world seems to center upon us, the zero point of orientation. In any direction I turn, it is the limits of my vision, the limit of the space I inhabit. What, then does the horizon and the horizontal have to do with laterality?

The final dimension, that of laterality and horizontality, is in some ways the most perplexing one. How does my bodily experience, namely laterality, relate to the external equivalent, horizontality? The other two axes are embedded in my body and find their correlatives easily in the world: for instance, with the vertical of gravity, I stand upright and balanced in line with it. With depth, I move forward into it, as the space spanning what just before me and more distant. The horizontal dimension of breadth ought logically to pertain to our third axis, the median line dividing us into bilateral

<sup>&</sup>lt;sup>1</sup> Henry George Liddell, Robert Scott, A Greek-English Lexicon.

creatures. Yet this relation of laterality to horizontality, the bodily axis and external dimension, seems less obvious than in the other axes. For the difference between right and left directions is not as obvious as it is in the case of the dimensions of verticality or depth, both of which are marked by obviously asymmetrical features and forces, both within the body and externally.

Laterality refers to my sense of right and left, both in my body and in the left-right division of all space around me. It is a distinction that I carry within my body, unchanged no matter where I turn. Horizontality, on the other hand, is the plane perpendicular to the vertical. The connection between them is not so simple or obvious. Let us begin with a few tentative similarities: regarding the body, my paired organs and limbs lie on the same horizontal line, as seen when I outstretch my arms. Regarding the visual horizon, it seems to run from left to right of me, or vice versa. What makes the question puzzling is that laterality—having left and right sides--seems to pertain to definite, bounded things or areas. By contrast, the horizon is all encompassing, surrounding us; it is elusive and intangible, as the visible border of the infinitely receding ground plane. And the horizontal is something else again: a dimension defined in opposition to the vertical, that is, the ground plane perpendicular to the pull of gravity. Indeed, the term "horizontal" applies equally to the level surface beneath our feet and also the distant horizon. At the limit, this ground plane appears to encircle us, running from left to right. In other words, the horizon is both lateral and horizontal: that is, it runs from side to side, and it is perpendicular to gravity. But the horizon thus given is merely a presentation in our visual field, not felt. And the ground plane under our feet does not seem to relate to laterality, but rather verticality, in contrast to the visual horizon of the distant ground plane. So how does the bilateralism of the body, its sidedness, relate to the horizon and horizontality of the outer world?

In this chapter, I will seek to explain the relation of the lateral to the horizontal, a puzzling relation that is not as clear as that of verticality to the upright posture, or depth to our frontality. As with the other chapters, the dimension is divided into two parts, one dealing with its appearance in the body and a second dealing with its manifestation in the world. In Part I, I propose to explore the body's sense of left and right, inquiring into the very nature of this distinction and its basis.. Unlike the distinction up/down or front/back, right and left have to be learned. Is it innate or conventional, conceptual or intuitive? We will see that very similarity of right and left is precisely what makes this distinction helpful for orientation. As Kant first pointed out, in his essay *What is Orientation in Thinking*, the sense of right and left is what helps us determine our bearings with regard to the external world. The bodily sense of a distinction between its sides makes orientation possible, for it enables us to sense our particular bearings on the horizontal ground plane. This distinction between left and right is neither empirical or conventional, as will be shown by returning to Kant, and the question of incongruent counterparts. Kant's inquiry into the nature of handedness, and whether a lone hand could be identified as a right or left one, turned him first towards absolute space and then towards space as a form of intuition. Ultimately, it seems that the sense of right versus left, and the univocal assignment of directionality, cannot be communicated in the absence of a body which serves as a reference; laterality will thus emerge as a kind of deictic, "non-conceptual" knowledge.

In the second part of this chapter, I will inquire into the meaning and symbolism of the horizon and horizontality in the external world. The horizon is the limit of our visual perception, forming where the earth seems to meet the sky. The horizon for a given region is where the sun rises and sets, and thus sets temporal limits as well as spatial ones. It thus defines the here and now, in space and in time--one might say it circumscribes immediacy itself. Consequently, much of horizon's significance has to do with its status as limit. It is the threshold of the unknown, an unattainable but compelling ideal.

Related to the horizon is the horizontal, instantiated in the ground plane, the realm of human dwelling and activity (though not limited to that). I suggest below that the horizontal plane has come to predominate over the vertical as the direction of human aspiration. The modern age saw a shift in our picture of the cosmos: from a geocentric and vertically ordered world, in which a divine order was assumed, we now inhabit a largely secular and anthropocentric age. With the early modern era came the collective project of methodically investigating and exploring the natural world. Horizons were expanded and overcome, via improved navigation; continents were mapped and interconnected, trade routes laid out, and time zones created. Ultimately, the limits of particular time and space being slowly dissolved as all places yield to one interconnected ground plane, the globe.

I have shifted rather abruptly from the laterality of the body, on one hand, to the horizontal in its widest scope, the infinite ground plane, on the other. Such a shift may well be conceptually disorienting, due to the great difference in scale from body to world; yet this serves to reinforce the core question: how is the laterality of the lived body, i.e. the simple sense of right and left, relate to the wider horizontality of the external world? Let me return to the basic questions then: what is meant by laterality, what is meant by horizon and horizontality, and how does the laterality of the body relate to the world?

#### 6.1 Part I: Laterality and Horizontality in the Body

Laterality is the feeling of right and left, both in our bodies and in the space that is spread out to either side of us. We are aware of having right and left sides, a distinction and terminology that we learn as children, as well as right and left arms and legs, eyes and ears. All of these pair organs and limbs can function separately as well as together. If I turn, right and left turn with me, I carry them with my body, as I do with forward and rear directions. My visual field also contains a right and left, evident in my reading letters from left to right. If I look up from the book, I see horizontal surfaces and planes running from side to side, and ultimately the horizon, the ultimate horizontal. The latter runs so far to either side of me that the opposite sides circle around me and meet in a circle; it is line and circle both. The ground plane near to me and the horizon far from me must figure into laterality, but precisely how? And what do these examples say about how my bilateral symmetry, my handedness, embodies the horizontal?

The connection of laterality to horizontality is, so far, unclear. If I recline to a horizontal position, I do not engage my sense of right or left; nor does placing things to my left and right involve reference to any horizontal. The closest I can come is to mirror the horizon by stretching my arms wide. If I then add a pair of weights to my hands, I begin to suspect that horizontality involves both symmetry and balance. The force of gravity pulls identically on both arms; asymmetric movements challenge this balance. (For my body is schematically rather like a <u>pair of scales</u>, as Klee observed). My body's bilateral symmetry is the basis of my balance and equilibrium. Stability comes from keeping the stimuli or actions equal, or balanced, on both sides. So too will the body's symmetry facilitate a reckoning with unequal stimuli that will prove essential to orientation in space, as we shall ultimately see further below.

### 6.1.1 Laterality and Reference Frames

As with verticality, laterality is present in general, in the things and spaces of the world, and it is also sensed within the body as a qualitative distinction between one's own right and left. For any given expanse of space, any extended thing, any horizontal area or line, we can call one side right and the other left. Having a right and left side is a basic property of spatial extendedness, since like the other two axes, verticality and depth, laterality also has two distinct directions. Laterality in the body the sense of having a left and right sides, and of determining the left and right sides and directions of things outside of us. Laterality might be seen as the most "ideal" dimension, because unlike the other axes no obvious physical functions or structures differentiate one end of the axis from the other. (We are, it is true, prone to handedness, finding one side to be stronger and more "dexterous" than the other; but the very fact that we notice the slight differences in facility is precisely due to our bilateral symmetry. We compare those body parts that are structurally and functionally similar and mirrored.)

Given any three-dimensional frame of reference, right and left are determined once the up/down and front/back directions are established. This frame of reference can be centered on the object (also called intrinsic, or egocentric), or it can center on another object, making right and left relative to the latter. For instance, I refer to my own left hand, or to the street on that same side, as on my left. But this frame of reference can also be transposed onto another point of reference, so that the street that is to my left is on the right of the person facing me. If I specify, then, that a key is hidden to the right of the bench, I have to add whether this means the "right side" of the person approaching the bench (relative to the person) or on the right side of the bench itself (assuming the bench has a front, which is the same direction as someone sitting on it); the latter would be an intrinsic, object centered frame of reference. Thus right and left are always dependent on a particular frame of reference. These are all rooted, however, in the egocentric sense of right and left specific to one's own body. Whereas the vertical is absolute, right and left are relative to a given reference frame. That we can project right and left onto other objects depends on our first being able to distinguish it in our own bodily, egocentric frame of reference.

#### 6.1.2 Laterality and Balance

Our sense of laterality is intertwined with the other two axial directions of the body. We would not have a sense of laterality if we had no sense of front and back, up and down.<sup>2</sup> Laterality thus depends on the other axes. In return, it enables us to balance around them both, albeit differently.

The bilateral organs of any creature flank its forward axis, arrayed symmetrically on either side. The bilateral symmetry gives us identical sides composed of perfectly congruent receptors, to better compare and detect differences in

<sup>&</sup>lt;sup>2</sup> Casey, Getting Back Into Place, 83.

the sense stimuli coming both from within and without. Like a pair of scales, our bilateral senses enable us to register, compare and balance the information from our surroundings. They thus help to determine "forwardness" itself, so we might hold a steady direction or hold a bearing. The confusing similarity of right and left--their merely ideal difference -- is thus precisely their virtue. It is what makes this axis useful to us, essential to orientation and mobility.

A sense of internal symmetry also helps us to balance us in our upright posture. We strive for equilibrium both at rest and in motion, for instance balancing our weight through symmetric and rhythmic motions (in activities like walking, running, biking) as well as through careful asymmetrical movements (counterbalancing various forces in asymmetrical movements such as yoga, dance, climbing). <sup>3</sup> With respect to verticality, then, as well as forward motion, laterality helps us to balance, that is, to equalize. It helps us determine a forward bearing and is thus tied to depth, as we shall see below.

I have made a case for the importance of right and left to bodily orientation, equilibrium, and balance. What is at the heart of this distinction, which, though it is deeply felt in the body, also seems to exist independently of it: for instance, in the symmetry of nature, and in chiral organisms? The question of distinguishing right from left is not as trivial as it initially appears.

#### 6.1.3 The Basis of Right and Left

In contrast to the other bodily directions, children have to learn to tell their right side from their left. The lateral axis is unique in its lack of differentiation, compared to the other axes. <sup>4</sup> Due to this external symmetry of the right and left sides of the body, learning which side to call right and which left is learned fairly gradually, with practice. But what kind of knowledge is this, and how do we acquire it? In fact, we are originally shown, by others, which sides are to be called left and right, relative to the other axes. It is a deictic kind of teaching, a simple pointing out which side is called which. At the same time, we already have a basic sense of a difference between one side and another, which shows up in our handedness, our preference for one hand over the other for writing, throwing, etc. This handedness may well help us to match the feeling in our body with the more difficult task matching of labels to these sides.

With time, the terminology distinguishing right and left ultimately seems to become ingrained, as it were, in our bodies, where it serves as the original matrix, or reference, for our sense of direction. That is, once we have internalized the sense of right and left as shown to us, we can then transpose our bodily sense of right and left (by projecting our frame of reference) onto other objects or space, to talk about relative locations, give directions and layouts, etc. We thus acquire an intersubjective way of aligning our own egocentric frame of reference to a larger context, when we share in the universal labels for right and left (Cultures that do not use egocentric orientation, but rather rely on cardinal

<sup>&</sup>lt;sup>3</sup> Borel et al, "Unilateral vestibular loss impairs external space representation" *PLoS One.* 2014 Feb 11;9(2):e88576. doi: 10.1371/journal.pone.0088576. eCollection 2014. Vestibular loss was found to hinder both "the representation of both the external space and the body pointing direction."

<sup>&</sup>lt;sup>4</sup> We could never mistake up with down, since this axis is differentiated both by the vestibular system's sensitivity to gravity and by the visual order of the upright surroundings. Nor could we confuse front with back, since our physiology is geared frontally: we see depth through parallax motion and stereoscopic effects, our senses are frontally oriented and our limbs are designed to move forward.

directions or other external references are spared this step).

But suppose we could not initially be shown by others, deictically, which side is designated which? For instance, we can only communicate with written words? Isn't there a way of determining right and left that does not rely on pointing to, and labelling one's own body? If I look up "left" in the dictionary, it tells me that when I face north, my left side is westward while my right side is eastward—towards the sunrise. Quite aptly, since the sun, along with other celestial bodies, is a key reference point for situating ourselves in both space and time. (Hence the word "orientation," from "orient," the European name for the regions eastwards of Europe.)

The above definition works well if the recipient of the instructions is located on planet Earth, where it is an empirical fact that the sun emerges daily over the eastern horizon, due to the direction of the earth's rotation. In the absence, though, of any empirical indicators, however, and thus any deictic means of showing, it is not clear how one designates the difference. For instance, if scientists on earth seek to communicate, via radio coded signals, with beings on another planet, what can they use as a common reference? It is tricky to demonstrate right and left without referring to a specific place and our own relation to it.<sup>5</sup> The heart of the problem is this: is right and left a convention, a kind of feeling or habit acquired by our bodies, reinforced by language? Or is it an intrinsic property of things and space?

While learning what label to assign to our bodily sense of right and left is, of course, a question of convention. Whether we call one side right, *droit*, or *recht* and the other side left, *gauche*, or *links*, is merely a question of language; and we could even reverse the names once and for all, with no consequences. But this does not mean the directions themselves are conventional, only the nomenclature. For if I turn left when I should turn right, I end up lost; if I twist the screwdriver right instead of left my tools do not function. The distinction between right and left is not merely a question of learning the proper term <sup>6</sup>

On a functional and pragmatic level, our ability to distinguish right and left is linked to minor asymmetries in our bilaterally symmetrical bodies: I write better with my right hand, grasp objects with one hand or the other, recognize that scar as being on my left knee, etc. In experiencing asymmetries, we begin to develop a sense of left/right opposition between similar organs and members; that is, we detect imbalances in our body's exertion or other sensations, which alerts us to a state of asymmetry in ourselves and/or in our environment (which we must also distinguish). This state of internal imbalance amounts to our body's lateral distinction. Yet I argued above that our sense of laterality presupposes

<sup>&</sup>lt;sup>5</sup> In fact, this is a formidable and longstanding problem in physics, only solved in xxx by Madame Chien-Shiung Wu in which the asymmetrical decay of subatomic particles showed once and for all that it would be (not be) possible to distinguish between the present world and mirror version of the same. Using radioactive decay of Cobalt 60 atoms to be symmetrical, an operational definition of right and left (not conventional. (Gardner) one that can be 'extracted from nature' and not simply shown from one to another. Yet one could argue that even this solution still requires some axial, embodied subject to take a position relative to the physical indicator communicated. That is, the definition based on asymmetric cobalt decay is much like the fact that the sun rising on the left if we face north, it links us to an external reference except that the reference lies in an indicator that is not tied to a particular locale or situation.

<sup>&</sup>lt;sup>6</sup> "To the scientific mind there is no inner difference, no polarity between left and right, as there is for instance in the contrast of male and female, or of the anterior ends of an animal. It requires an arbitrary act of choice to determine what is left and what is right. But after it is made for one body it is determined for every body." H. Weyl, *Symmetry* (Princeton: Princeton University Press, 1989), p. 16.

balance and imbalance, rather than being created by it. As discussed in Chapter 2, bilateral symmetry helps to detect imbalance, that is, to detect variations in external stimuli and use these variations for orientation and wayfinding. Ströker suggests indeed that while our laterality is brought out by asymmetrical activity and sensations, it nonetheless exists independently.<sup>7</sup>

### 6.1.4 Handedness

What is clear is this: bilateral symmetry strongly characterizes our bodies, even though this symmetry is not perfect and absolute. In geometric terms, a shape is bilaterally symmetrical if it can be perfectly mirrored along a midline axis. The sense of right and left that we feel in our bodies is nearly symmetrical, though not exactly so, since one side is dominant, that is, conducts certain actions with more fluidity and ease.

Handedness influences many conventions in everyday life; from the placement of doorknobs to handshakes and writing. The right-handed live in a world designed in their favor while the left-handed minority inhabit one designed against them.<sup>8</sup> That the majority are right-handed has led to cultural valorizations of right over left, and symbolic connotations to each side that are sufficiently well-known as to not need repeating here. Instead, I would like to approach the question differently. Why does handedness matter, besides the practical or utilitarian advantage? What is so peculiar, even uncanny, about handedness that it should be valued, or stigmatized? Handedness is uncanny insofar as what seems to be identical, i.e. the sides of the body, prove to be asymmetrical in function, and in an unpredictable way. Imagine going into face to face combat and discovering your opponent had the mirror opposite strengths, the mirror opposite responses, than what is expected. Being confronted with an Other, or a tool, or a convention, whose handedness is not one's own requires a rethinking of one's own habits, and a care to what one had formerly taken utterly for granted. Why should we need to have evolved with a sense of handedness? Perhaps the very variation from right to left in our bodies, i.e., our asymmetrical skill in our hands and feet, helps us to tell our sides of the body apart, serving as a basis for own orientation knowing our own right and left, getting our own bearings, and also at a more conceptual application, when we apply right and left to entities outside our bodies, i.e. transposing our own reference frame onto other points and making use of directionality in more objective situations.

Handedness has proven important for bodily sense of laterality in our own orientation and experience. However, what happens when we move from the personal sense of handedness to the intersubjective norms of right and left, universal and conventional the world over? Isn't the learning of the name right and left precisely the shift from purely egocentric and personal space (pre-objective) to an intersubjectively constituted objective norm? In other words, the

<sup>7</sup> "While left-right dimensionalizing is grounded in corporeity, nonetheless is nothing corporeal. The directional moment laid out from me to ... characterizes the spatially polar relationship between the lived body and the intended things. By means of left and right I relate myself to them and them to me. They obtain their being on the right and the left through my designations, yet my capacity for such designations depends on my being oriented to them" (Ströker, 67).
<sup>8</sup> This leads to both advantages and disadvantages for a left-handed person: they outperform in an array of sports including baseball, boxing, tennis, hand-to-hand combat and bowling. On the other hand, they face challenges using tools and weapons meant for right-handed use, and have long had to conform to right-handed social conventions, as with greetings and handwriting. Most troubling is that firearms and weapons tend to be built for right-handed use, resulting in more risk of injury and death to left-handed people.

bilateral symmetry of our bodies, which we experience structurally and visually, if not wholly functionally, is the basis for a more abstract and geometric lateral directionality laterality which is entirely independent of handedness.

### 6.1.5 A Distinction without a Difference

The challenge of learning the proper labelling of right and left to one's own body, though mastered in childhood, is not trivial. It is not like learning the names of other objects; for it consists precisely in the shift from sensible to conceptual, from personal and individual to an intersubjective norm. All humans designate right and left in the same way; this is the very utility and necessity of the lateral distinction. It is not arbitrary or personal: it is the univocal agreement on which side we call left and right, not just for the body but universally, as a basic feature of reference frames themselves (which have a top and front). To learn one's right from left is to accede from a purely solipsistic sense of lateral direction to a universal and publicly shared one. The geometric notion of laterality, which divides all space around us into right and left, and which pertains to every set of directions, every spatial description, does not rely on dominant handedness; it is independent of any asymmetry, it is an arbitrary chosen but universally agreed upon determination. (Thus it is unlike the sense of up down, linked to gravity earth, or depth, linked to the asymmetrical axis of front/back).

That laterality is the ideal dimension, most geometric, identical on either side of the axis, would still hold true even if we did not have this empirical handedness. Wouldn't we still use these distinctions in the same way if we were all perfectly ambidextrous? At the geometrical level, and to a certain extent at the bodily level, the difference between right and left is a distinction without a difference. It is precisely this *lack of difference* that renders laterality effective. We need unbiased bilateral symmetry in discerning sensory differences coming from within and from without. For again, disparities in sensory information from things outside of us are needed for triangulating and locating, while sensing disparities and equivalences within the body aid in balance and movement. (Depth too, in the sense of stereoscopic vision, relies on lateral symmetry: we must have two similar functioning eyes to produce two slightly differing images needed for comparison). In the more abstract use of right and left, for following directions, wayfinding, self-locating, we also disregard any bodily dominance: we never favor one side or the other when figuring out our alignment to the world around us. Even when it comes to learning the names for right and left, we must leave dominance aside, for the bodily sense of handedness does not alter either the designation or the meaning of right and left. Bilateral symmetry is, by its very nature, a distinction without a difference.

# 6.2 Laterality and Orientation: Kant's "Feeling" of Right and Left

Laterality is vital to our ability to orient ourselves that is, to sense our bearings with regard to the world outside. Lateral differentiation is a feeling, to be sure, but it is surely more than that. It is somehow tied to the horizontal plane of our activity, and it is always with us. That our sense of right and left is fundamental for horizontal orientation is clearly implied in Kant's exploration of this question in his essay "What is Orientation in Thinking?" of 1786. Kant, having a particular interest in the nature of space and its appearance to the subject, took the lead in this area, moreover, his studies on laterality and handedness ultimately contributed to his characterization of space as the form of intuition. That our sense of right and left is fundamental for horizontal orientation is clearly implied in Kant's "Orientation" essay.

### 6.2.1 Laterality and Alignment with External Space

In Kant's early thinking on space, he observed what he referred to as a primitive feeling for right and left, which originates in the left and right sides of our bodies. In "What Does It Mean to Orient Oneself in Thinking?" he links the bodily sense of left and right to the ability to locate oneself with respect to directional benchmarks in the external world. "To orient oneself... means to use a given direction—and we divide the horizon into four of these--in order to find the others—and in particular to find the sunrise."<sup>9</sup> The determination of one cardinal direction allows us to infer, geometrically, the others. Already the definition of orientation involves how the axes of one's own body are aligned and grasped in relation to a particular external order. Most notably, this alignment, or orientation, depends on *a* feeling of right and left, a feeling especially evident in one's own hands, for Kant. "If I see the sun in the sky and know it is now midday, I know how to find south, west, north, and east. For this purpose, however, I also must necessarily be able to feel a difference within my own subject, namely that between my right and left hands. I call this a *feeling* because the two sides display no perceptible difference as far as external intuition is concerned." <sup>10</sup>

The feeling by which I distinguish the right and left sides of my body, and identify which is which, is somewhat peculiar. Our bodies are not differentiated or labeled, nor is there internal distinction within the body or the perceptions on either side (there may be functional differences, as with handedness, which we remember and associate with each side, even when we are not so engaged, but this cannot be taken as the basis for our distinguishing, for surely an ambidextrous person would also be able to determine their left and right sides. Moreover, we this felt internal sense is carried with us wherever we are and whichever way we turn; also when we are passive )It even remains largely with us even when we sleep---for who has not woken up wondering why the room seemed at a different alignment than they felt it to be, prior to opening their eyes?)

Orientation to the outside world depends on this internal bilateral feeling, which helps me to situate my body with respect to the surrounding world. For such alignment to occur, no external sense data or input is needed, except a single external point of reference, as Kant also makes clear.

"In the darkness, I can orient myself in a familiar room so long as I can touch one object whose position I remember. But it is obvious that the only thing which assists me here is an ability to define the position of the objects by means of a subjective distinction: for I cannot see the objects whose position I am supposed to find; and if, for a joke, someone had shifted all the objects round in such a way that their relative positions remained the same but what was previously on the right was not on the left, I would be quite unable to find my way about a room whose walls were in other respects identical. But in fact, I can soon orient myself simply by *the feeling of difference between my two sides, my right and my left.*<sup>11</sup>

Conceptual information will not help us our bearings, Kant confirms, unless we are also embedded in the situation and relating to it through the body. He notes that a map of a region is useless unless we are able to properly set ourselves in the picture:

<sup>&</sup>lt;sup>9</sup> Kant, "What Does It Mean to Orient Oneself in Thinking", trans. H. B. Nisbet in *Immanuel Kant: Political Writings*, ed. Hans Reiss, 2nd ed. (Cambridge: Cambridge University Press, 1991), 238, [emphasis added].

<sup>&</sup>lt;sup>10</sup> Ibid, 238.

<sup>&</sup>lt;sup>11</sup> Kant, "What is Orientation," 239. [emphasis added].

"However well I know the order of the cardinal points, I can determine regions according to that order only in so far as I know towards which hand this order proceeds; and the most complete chart of the heavens, however perfectly I might carry the plan in my mind, would not teach me, from a known region, North say, on which side to look for sunrise, unless, in addition to the positions of the stars in relation to one another, this region were also determined through the position of the plan relatively to my hands."<sup>12</sup>

Kant thereby clarifies why the lateral sense of right and left is the bodily axis most pertinent to orientation on the ground plane--thus the lynchpin that connects laterality to horizontality. To know our bearing, we must both align ourselves properly to the surrounding world,<sup>13</sup> but this requires that we have some geometric model of reality (a map or mental diagram) which we also align to both ourselves and to the surrounding world. Taking this idea step by step: now do I know which way I am headed, or at which angle something lies with respect to me, i.e. behind me, to my left, etc.? To get a grasp of my bearings and maintain it, I must coordinate three elements: the actual landscape or surroundings, a map (actual or mental) of this region, and the particular direction I am facing. Three elements need to be coordinated with two relations. If I line up the map with the landscape, that is one relation established, but not enough: I still have to line myself up with the map (using my sense of right and left). If I line myself up with the map—a relation that is likely intrinsic to any internal model or map—then I still have to align self + map with the actual surroundings. If I omit myself and my bearings, leaving only a map and the landscape, I do not know where I am; that is, I do not know that I am within that particular space. Like the fable of the person with amnesiac standing and reading her own biography in the library, without realizing she was reading her own story, I would be missing the deictic aspects that situate me, that orient me, at all.<sup>14</sup>

In brief, our bilaterality is our way of sensing our bearings within the vast circle of space that always surrounds us. My body is the locus of my orientation (to whatever lies beyond direct perception) not only insofar as I am at the "center" but also insofar as I can relate the lateral axes of my body to points within that expanse.

The sense of left and right, as Kant explicitly stated, is a kind of feeling that is based in the body and key for orientation. We orient by comparing the direction our own felt sense of laterality with some external reference or axis (such as cardinal directions, a recognized landmark, a properly-aligned map, etc.). This felt distinction of right and left does not arise from any physical difference or empirical evidence. We seem to perceive it, or feel it, prior to and independently of any external sensory information, as I will discuss below. This felt sense of left and right, that once we

<sup>&</sup>lt;sup>12</sup> Kant, "On the First Ground of the Distinction Of Regions In Space," in Van Cleve J., Frederick R.E. (eds.) The Philosophy of Right and Left. (Dordrecht: Springer, 1991), 29.

<sup>&</sup>lt;sup>13</sup> That is, to the ground plane, for we are already normally vertical.

<sup>&</sup>lt;sup>14</sup> Note that the role of bilateral symmetry in orientation does not require the naming of right and left;: cultures which rely on cardinal directions do not need the terms; nor do animals need right and left labels to find their way. All orientation however requires is a sense of the extendedness and laterality of one's body, in relation to the ground plane. Laterality is more important than verticality for us, for orientation, because we are terrestrial creatures. (A bird or octopus would likely have a more accurate way of gauging it's position relative to verticality; we have mainly fear). Laterality for us goes hand in hand with the forward axis; always flanking it and helping us to determine the direction we are facing. Indeed, we could also orient on the earth plane if we had some other configuration, like that of a radial sea creature, provided we could hold onto some internal differentiation. Bilateral symmetry seems to have two main advantages: it is conducive to forward motion (regular even movement of limbs) and bilateral organs enable triangulation.

learned, is always with us, as if incorporated into the body schema. We also transpose it from our bodies to things on the world, so we can say, for instance, whether a given organism or molecule spirals to the right or the left, or so that we can give directions to someone using words alone.

Kant's preoccupation with the sense of right and left went further. His famous one-hand problem, explored below, is a thought experiment that asks whether rightness and leftness are based in the observer, the object, or the object's relation to space itself. His ensuing investigations into laterality led him first to uphold Newton's absolute space, but ultimately to conclude that our representations of space are intuitions, not concepts.<sup>15</sup>

#### 6.2.2 Kant's Incongruent Counterparts: the Question of Lateral Difference

Imagine, Kant proposes, we come across a single hand; for instance, a marble hand broken off a statue. We can determine whether it is a right or left hand easily, for instance by comparing it to our own. But the problem begins, for Kant, when he imagines that God could decide to create a single hand, alone in the universe. Then, would this hand be a left or right hand? Since it has no spatial relationship to any other objects, it bears only its own intrinsic properties. Can its handedness even be determined, as either right nor left? Next Kant asks us to imagine a body, one lacking hands, that is now created alongside the single hand. Clearly the original hand will then be seen to belong either to the right or left wrist--but not both. Kant concluded that the original hand must have been, intrinsically, either a left or right one.

The peculiar thought experiment has generated myriad responses. As Graham Nerlich remarks, it is both "surprising and revealing that this domestic difference takes us at one bound to a deep, global property of space without intervening relation of a hand to any other object."<sup>16</sup> This is because right and left hands belong to a special class of objects that Kant named "incongruent counterparts", or enantiomorphs (from Greek *enantios* and *morphe*, opposite + form).<sup>17</sup> Incongruent counterparts are identical conceptually but perceptibly different, for they cannot be rotated or superimposed in the same space to be identical. The difference between a right hand and a left hand cannot be put in words, but it is clear in our experience.<sup>18</sup>

Kant initially took this thought experiment to support the existence of absolute space, against those who would define it in terms of relations. He argued that the original, solitary hand 1) would have a definite handedness, either right or left, and 2) that this handedness could neither be due to intrinsic qualities of the hand (both being internally identical)

<sup>&</sup>lt;sup>15</sup> See Max Jammer, *Concepts of Space*, 133; Bernecker, 519.

<sup>&</sup>lt;sup>16</sup> Nerlich, "Hands, Knees, and Absolute Space, in The Philosophy of Right and Left, 63.

<sup>&</sup>lt;sup>17</sup> Such pairs of objects are characterized by being identical in all respects, i.e. their shape and size, while being mirror images of each other, reorientation possible that would make them appear identical. In other words, a left-handed glove can never be put on a right hand. The same property is found in nature, for instance in snails, animal horns, and winding plants, also in many bacteria and molecules.

<sup>&</sup>lt;sup>18</sup> The two hands, right and left, are geometrically the same, as are their internal relations: the thumb is at such and such an angle to the forefinger, the relative lengths and positions of the fingers are identical, etc. They are conceptually the same. We have no trouble communicating which is which, because we simply show each other; or use commonly agreed conventions that substitute for showing (i.e. the sunrise is left if I am facing north). The difference between right and left is only grasped through demonstration. As evidence to this, let us take the counterexample: Imagine sending a set of radio signals to an alien race whom one will never encounter face to face. We could not manage to indicate to them which way for us is right and which way is left. Absent a common frame of reference; there is no way of showing them this distinction, absurdly simple as it may be, without indicating it deictically or with reference to a body.

nor to relations to external objects (since the hand is the only object) and from this concluded that their incongruence could be explained only by absolute space.<sup>19</sup> However, by his 1770 *Dissertation* he came to see the question of incongruent counterparts as pointing to space as the form of intuition. "The diversity, that is, the incongruity, can only be apprehended by some species of pure intuition," Kant concluded.<sup>20</sup>

Kant's view of space as the a priori form of intuition has been extensively debated, along with the related problem of incongruent counterparts. Leibnitz countered that the first hand would not have any handedness at all, only with the appearance of a second hand would the distinction become meaningful.<sup>21</sup> The question has received much recent attention in the analytic tradition, with attention to the complications introduced by non-Euclidean, non-orientable spaces.<sup>22</sup> It should also be noted in passing that what Kant turned into a mystery has been explained at the mathematical level as the simple fact of the availability of symmetrical permutations of objects in one, two, and three dimensions, and that Kant's use of laterality to support the transcendental ideality of space had been markedly criticized.<sup>23</sup> The critique of

<sup>21</sup> Weyl, *Symmetry*, 20-21.

<sup>&</sup>lt;sup>19</sup> See Paragraph 15C. By absolute he meant a "total unified space to which material bodies extended in space are intrinsically related" and "intrinsically directional," according to Robert Hanna. See his "Kantian Non-Conceptualism" in *Philosophical Studies*, Vol. 137, No. 1, p. 46.

<sup>&</sup>lt;sup>20</sup> Though he originally referred to it as a feeling, as we saw above, Kant later talks about "pure intuition": "Which things in a given space lie toward one side and which are turned toward the other can by no acuteness of reasoning be described discursively or reduced to intellectual marks. There being in perfectly similar and equal but incongruous solids, such as the right and the left hand, conceived of solely as to extent, or spherical triangles in opposite hemispheres, a difference rendering impossible the coincidence of their limits of extension, although for all that can be stated in marks intelligible to the mind by speech they are interchangeable, it is patent that only by pure intuition can the difference, namely, incongruity, be noticed." (Paragraph 15C, *Dissertation on the Form and Principles of the Sensible and the Intelligible World*, 1770).

<sup>&</sup>lt;sup>22</sup> Taken as independent of any observer or body, whether something is an enantiomorph (is a right or left hand) seems related to how the asymmetrical shape is originally "embedded" as well as the type of space in which it is embedded. (cite). But this merely determines handedness as such; it does not distinguish between right and left. The latter is possible only with the re-introduction of the embodied subject, which re-establishes the critical 'deictic' moment for determining directionality. One point of agreement, however, is this: absent a human body or point of view, the question of whether a lone hand is an enantiomorph (does not map onto its reflection) vs a homeomorph (does map onto its reflection) depends on the type of space implied; namely, whether it is an orientable or nonorientable space. (Nerlich, "Hands, Knees, and Absolute Space, in The Philosophy of Right and Left, 156). Lawrence Sklar agrees that handedness has to do with the type of space the hand is embedded in, and also how it is originally embedded. "Questions of orientation can be understood fully in the context of an understanding of the topology of the space as a whole", he notes (Sklar, "Incongruous Counterparts, Intrinsic Features and the Substantiviality of Space," in The Philosophy of Right and Left, 185). However, whether the long hand is specifically right or left hand is a different issue, one which depends on its original moment of 'creation' (as Kant puts it, referring to divine source) or 'embedding', as Nerlich, who concurs with Kant, rephrases it. Embedding refers to how the object is originally 'inserted' into space, but Nerlich admits this term is both unclear and is 'metaphorical'. William Harper makes the convincing and somewhat surprising proposal that the idea of embedding— the process by which a hand is originally made or inserted into space in one direction or the other—is grasped by 'intuition'. Embedding "is a relation to space in general which can only be specified by intuition." (Harper, "Kant on Incongruent Counterparts, in The Philosophy of Right and Left, 297).

<sup>&</sup>lt;sup>23</sup> "For Max Jammer, what Kant explains by transcendental idealism is instead accounted for mathematically by Herman Weyl's demonstration that the enantiomorph distinction is "of a purely combinatorial character (a permutation of given linearly independent vectors determines the sense of rotation, as for example in left or right-handed coordinated systems." As Jammer explains, "The left side of a straight line can be interchanged with its right side by rotating the line in a plane, the clockwise direction on a surface can be interchanged with an anticlockwise direction by moving the surface in three dimensions space (turning over), a left-hand screw with a right-hand screw – or the left hand with the right hand—by "moving" the object in four-dimensional space. It is clear, therefore, that mathematically no essential mark distinguishes one from the other. In fact, until 1956, when for the first time the conservation of parity was called into question...it was generally believed that all laws of nature are invariant with respect to the interchange of right and left." See Jammer's *Concepts of Space: The History of Theories of Space in Physics* (New York: Dover Publications, 3<sup>rd</sup> ed., 1993 )

Kant's notion of space as a form of pure intuition is well beyond the scope of our question: namely, the role of the body in the personal and intersubjective perception of the dimensions. Limiting myself then, to this question, it remains true that the condition of embodiment appears central in the intersubjective assignation and communication of right and left.

According to Robert Hanna, "the difference between a given material object and its actual or possible enantiomorph can be adequately determined only from the standpoint of an egocentric center which is embedded in the very same space and time as that material object or event."24 Without a body we would have no ability to designate right and left, or tell them apart. Distinguishing laterality is a form of non-conceptual, deictic content; it is particular to the egocentric perspective of a being situated in space. it enables us to function effectively in space, that is, to turn the doorknob to the right, not left, to type or play piano, find our way around, etc. For Hanna this form of preconceptual, sensorimotor knowledge belongs to the body schema itself.<sup>25</sup> That is, the awareness of the distinction exists at the personal level before one learns the public (intersubjectively established universal convention) for designating right and left.

The body helps us to show this distinction that cannot be put into words.<sup>26</sup> Right and left are relational, originally relative to the body by definition. As Sven Bernecker explains, determining handedness of a thing, be it a glove or a turn signal or asymmetric atomic fission, depends on our position relative to it--including the transposition (rotation, mirroring, etc.) of our own frame of reference. Thus determining the handedness of anything implies one's own self location as well: "One can identify the orientation of an object only if one can orient oneself vis-a-vis that object. By identifying this hand as a right hand, I am saying that I look at it from the left hand side. To identify the orientation of an object is to locate the object relative to a certain standard. When the standard is one's own body, the identifications of spatial orientations are implicit self-location."27 Right and left are therefore shown only deictically, that is, in terms of their "spatio-temporal relation to the speaker."28

Moreover, the body does not just show and remember the directions of left and right: it is always and already predisposed to organizing the world in these terms. As Ian White observed, "it is because my ability to perceive whether something lies in a certain direction involves a perceiving which is itself determined as in that direction, that such perceiving continues to supply itself with such a direction as its object, even when no occupying object is there to be perceived."29 In other words, I am always predisposed to sensing a given layout of directionality around me, a predisposition that is especially clear in the case of laterality, there is no other difference in the body's morphology as with the other two axes. With the vertical, the pull of gravity and the corresponding structure of standing things marks the spatial difference between up and down. With the front/back axis, the body itself provides different views (or lack) and possible experiences of motion, such that space in front of me is not like space behind me, nor are near and far

pp. 133-4. <sup>24</sup> Robert Hanna, "Kantian Non-Conceptualism" in Philosophical Studies, Vol. 137, No. 1, p. 41-64.

<sup>&</sup>lt;sup>25</sup> Robert Hanna, Cognition, Content and the A Priori: A Study in the Philosophy of Mind and Knowledge (Oxford, Oxford University Press, 2015), 165.

<sup>&</sup>lt;sup>26</sup> Sven Bernecker, "Kant on Spatial Orientation," in the European Journal of Philosophy, Vol. 20 (2012), 519-533.

<sup>&</sup>lt;sup>27</sup> Bernecker, 525.

<sup>&</sup>lt;sup>28</sup> Bernecker, 527.

<sup>&</sup>lt;sup>29</sup> Ian White, "Kant on Forms of Intuition" in Proceedings of the Aristotelian Society, New Series, Vol. 79 (1978 - 1979), 132.

similar. Only with right and left, laterality, is the space around us felt as structurally similar: its only difference is being mirrored around the axis of our own verticality.

As for whether laterality is intuitive, grounded in bodily sensation, or conceptual, grounded in geometry applied to the body, let us rephrase the question. Laterality seems to combine both feeling and geometry; it belongs to my being spatially extended. Right and left might be experienced as a feeling in my limbs, but this feeling follows from my bilaterality. My sense of there being a right and left side to the spatial world around me precedes any actual stimuli and enables me to situate the latter's location. <sup>30</sup> Ultimately, further understanding of laterality and the bilateral organization of the world is likely to arise from the neurosciences: for it is clear too that our normal spatial field is actually the synthesis of two separate bilateral fields is implied in the phenomenon of hemi-spatial neglect, where a brain injury causes a partial or total loss of awareness of an entire side of the world, be it the right of left side of one's own body, or one's surroundings, or things within it. <sup>31</sup> Both scientific and the phenomenological questioning of laterality seems to concur in this: I have a sense of my left and right, and also of the world as being ordered into left and right; this is true even before I perceive any particular thing in my spatial field.

### 6.3 Conclusion to Part I (Chapter Six)

#### 6.3.1 Laterality as Sensible and Abstract

With this foray into the conditions for handedness and its distinction, the relation of laterality to horizontality has been clarified. The sense of right and left enables us to determine our bearings on the horizontal ground plane, the plane of the world that we tend to map, both literally and conceptually (as if from a god's eye view). In situating ourselves to our surroundings, we use our sense of right and left in the body to align ourselves with two elements: the world itself (the deictic moment, with its empirical content) and the concept or diagram (mental or externalized in a map) that we have of that region. With this alignment, our egocentric center is immediately aligned with some layout in the world, no longer blind to my wider context. In short, having a right and left means I am never just at the center of my surroundings; my laterality and corresponding frontality means I am always aware of facing a given direction. Without this sense, I would be as disoriented as if I did not know which way was up.

Laterality operates both at the sensory and conceptual levels, in orientation. We saw in Chapter 2 that the bilateral structure of living beings enables the triangulation needed both to locate external stimuli and also to the establish and hold a bearing.<sup>32</sup> If the vestibular system is akin to a spirit level, determining the vertical, then the bilateral sense organs

<sup>&</sup>lt;sup>30</sup> It is interesting to try and imagine the spatial experience of a non-bilateral being on earth. Would it have a sense of a 360° world all around, or just a sense of being able to point its body towards or away from some stimulus? <sup>31</sup> Hemi-spatial neglect is a neuropsychological disorder where a person, due to a brain injury, does not perceive, or is

inattentive to, the stimuli on one side of space or the other. With regard to the egocentric sort, one might fail to recognize, use, or perceive one side of one's own body or personal space. In the more allocentric variety, one is inattentive to, or does not perceive, one side of all individual things; the loss of half of the entire spatial field is also possible.

possible. <sup>32</sup> For instance, we hear a constant tone; if it is stronger in one ear then we turn our head until the intensity equalizes and then we are facing the source. Or we may keep the maximum intensity on one side, to travel with the same direction as the stimulus (i.e. keeping the south wind to our left to travel west). My laterality helps me to align my subjective view with the known reference points in the world.

are like a pair of scales, conducive to balance and comparison.2n.

Yet laterality is also arguably the most abstract of the axes, or dimensions, once it is externalized from the body through transposition of one's personal frame of reference. Unlike with the other two dimensions, nothing in our relation to the external world distinguishes one end of the axis of laterality from the other. This is what makes egocentric navigation a challenge: we have to remember what things are right and left of others, which as dyslexics know, are so easily confused. Moreover, our experience of space is not only sensible, but geometric, and we are prone to imposing this geometry upon the world around us, thus orienting (rationally, not sensibly) to the ideal reference systems imposed on the landscape. In orienting, we make use of abstract cardinal directions, meridians, mental diagrams. In navigation, the undifferentiated geometry of right and left is easily confused, and often inadequate, which is why many non-western cultures who rely not on the relative senses of right and left, but on absolute references (cardinal directions, slopes) have far more sophisticated navigational and orienting skills that westerners do. Perhaps their sense of bodily laterality is immediately integrated into the landscape, without needing to be thought of as primarily right/left)?

Awareness of one's own laterality seems to be a non-conceptual, deictic awareness that is always present, key to keeping track of our place and for general, ongoing orientation. The body is the condition for distinguishing the intersubjective sense of rightness and leftness in the world, and for determining one's orientation. Yet that does not make laterality subjective; rather, the body is the basis for our (culturally conditioned) grasp of the designation of right and left which is applied whenever we transpose our own frame of reference elsewhere (thus transcending our own purely egocentric orientation). In other words, a sense of lateral distinction seems necessary not only for one's personal orientation to the world but also for sharing of intersubjectively constituted objective space (a shared world). The specific feeling of laterality in the body comes to be associated with the public and universally shared convention of right and left, facilitating the coordination (through transposition and rotation) of the personal reference frame with the intersubjectively constituted "objective" one.<sup>33</sup>

My identification of right and left, symmetrical possibilities distinguished only by an internal feeling of laterality itself, prior to any external sense data, depends upon the body--or at least some spatial, triaxial configuration of my being. There is no laterality in the world, as there is a vertical dimension; for us, able to face any direction, laterality is always perpendicular to depth. Conversely, the axis of forward motion is always flanked by laterality, much as a final choice is always flanked by directions not taken.

#### 6.3.2 Laterality and Depth

Laterality, both sensed and abstract, is essential for finding my bearing on the ground plane. It is moreover an

<sup>&</sup>lt;sup>33</sup> Our egocentric reliance on right and left is originally relative to the body. Yet as I mentioned in Chapter 4, this left/right convention is unnecessary if some external reference is relied upon for orientation, such as a cardinal direction or dominant slope of the region. Such an external axis would, like our own lateral axis, also serve to structure and differentiate the ground plane, thus facilitating orientation. The difference is that our lateral axis is always carried with us, so to speak while the reliance on the cardinal direction instead requires continual awareness of the external benchmark. Yet even in this "absolute" system that relies on cardinal directions, an internal distinction within the body's transverse plane is still essential for sensing one's own alignment to the outer world.

ongoing sense, since I am always turning and changing my direction. Yet my mobility means that what is on my sides, laterality, and what is in front of me, depth, are always interchangeable. Laterality and depth are thus intrinsically related. Yet it was acknowledged earlier, with Merleau-Ponty, that depth and breadth are far from interchangeable, i.e., that the viewpoint of a given subject is a kind of existential position, in its spatial particularity. My viewpoint is not reducible to an objective one, or exchangeable with an external one. What, then, is the relation of laterality and horizontality to depth and frontality?

Depth for Merleau-Ponty was the most existential dimension, where things co-exist, and calling on our ability to hold different perspectives together. It precedes the other three dimensions: it is all around because it is what space feels like prior to any differentiation into axes, pure three dimensionality as such.<sup>34</sup> But perhaps depth is all around me in yet another way, one having to do with the intrinsic connection of the axes of the body. As embodied and *mobile* subjects, always turning and transposing ourselves, we are always recalibrating our sense of our surroundings to set a new 'forward', that is, a new ''axial'' depth and a new laterality.<sup>35</sup> Both axes of directionality, the frontal and the lateral, are carried with the body, even while my bearing *vis a vis* the world is always changing. Depth always unfolds before me wherever I turn- but it remains flanked by laterality. Depth unfolds before me no matter where I turn, and yet any given direction is always flanked by other choices, other directions—by my lateral possibilities. Thus lateral horizontality is the "invisible" alternative to depth (in the way that the back of something is invisible, but apperceived). Laterality is always aligning us with the space of the world, giving us our bearing, turning "depth" qua primordial undifferentiated sense into "depth" qua the axial direction ahead of us. Laterality is how I relate the space of my body to the space of horizontal possibility stretched out all around me. This feeling occurs every time, for instance, I come across a crossroads or intersection, and have to decide which way I will proceed. <sup>36</sup>

It is upon this the horizontal ground plane that all human settlements, navigation and exploration, has occurred. The ground plane is the plane of action, of practical human activity, which in our contemporary era is no longer tethered to a center or situated under the heavens, but has become instead the plane organized around a subjective center within a homogeneous and infinite expansion of secular space.

<sup>&</sup>lt;sup>34</sup> Depth is always the third axis, three dimensionality itself, what makes any other two dimensional plane into real space.).

<sup>&</sup>lt;sup>35</sup> Depth, even if we characterize it as a medium, all around, is nevertheless structured by my forward axis, my own vision and motion; the fact that I can direct my frontality anywhere is the very point I am trying to make: it converts laterality into depth.

<sup>&</sup>lt;sup>36</sup> Hence the extensive mythical, religious, and superstitious lore arising around the crossroads.
### 6.4 Part II: The Horizontal in the World: The Decentered Cosmos and the Rise of Modern Space

From the late medieval to the modern era, Western philosophy, theology, and astronomy all contributed to a gradual turn in the conception of the universe. The astronomical revolution was not merely a question of the changed positions and motions of planetary bodies and the redefinition of physical forces. It had implications for our own orientation and interpretation of our place in the world. We no longer envision ourselves in the closed, geocentric and hierarchically ordered universe of ancient times, but in a centerless, infinite, and ontologically homogeneous universe. In tandem with the new model of the universe, a different conception of space gradually evolved, that of an infinite and empty expanse, without any center or intrinsic directionality.<sup>37</sup>

This "reorientation" of the cosmos had the effect, claims Didier Maleuvre, of "horizontalizing" the world, for "when the new man of learning looked at the stars, he did not really look up; instead he looked out."<sup>38</sup> With this reconfiguration, the traditional privileged place of the earth in the universe was thrown into question, and humanity with it. Decentered and disoriented on a cosmic scale, no longer sure of an absolute center, the modern west sought a new existential and epistemological anchor point. This new center would ultimately be found in humanity's own perceptive and epistemological capabilities, rooted in our own finite and limited viewpoint, one that takes account of our own perspective.

As the new representation of the universe gradually evolved, along with a reconsideration of humanity's place within it, the horizontal direction came to take symbolic priority over the vertical axis. The modern view of the universe erased the traditional ontological distinctions between the superlunary and sublunary, flattening the cosmic realms into one single, albeit unlimited—realm. The horizon itself was no longer a boundary between the terrestrial and celestial domains, separating the mundane from the celestial. It marked instead the limits of our perception.

If the vertical was the axis of the sacred, as Norberg-Schultz claimed, then the horizontal would seem to be the axis of the secular. The locus of power shifted, as humans began to question traditional sources of knowledge and authority, turning instead towards their own ingenuity and reasoning. What had long been the traditional model of the world, a finite cosmos ordered and guided by a transcendent divinity, gradually gave way to a secular universe governed by natural physical laws. The terrestrial plane of human activity became the focus of attention as never before, bringing the age of exploration, rise of modern science, and the expansion and centralization of the nation state. Space itself came to be represented differently in modernity, as a systematic, infinite and homogenous field, and it would find its symbolic depiction in perspective, with the human standpoint figuratively standing at the center. The representation of modern space will become increasingly horizontal and flat, that is, secular, ordered, unified and infinite—and so too will our mode of inhabiting it.

<sup>&</sup>lt;sup>37</sup> Koyre posited a "link between the destruction of the ancient cosmos initiated by Renaissance astronomers and the "geometrization of space," that is "the substitution of the homogeneous and abstract space of Euclidean geometry for the qualitatively differentiated and concrete world-space conception of pre-Galilean physics" (3).

<sup>&</sup>lt;sup>38</sup> Maleuvre, The Horizon: A History of Our Infinite Longing, (Berkeley: University of California Press, 2011), 177.

#### 6.4.1 The Cosmological Revolution

The modern astronomical revolution overturned the traditional view of the cosmos and our place within it. The earth proved to be neither central, nor stable and unmoving, nor contained within a firmament of concentric spheres. It was instead spinning, orbiting in a universe whose center and limits were both unclear. Our orientation to the universe as a whole was altered, as well as our conception of space itself.

The medieval cosmos had been finite and hierarchical, created from nothing and ordered by divine providence; it reconciled Aristotle's finite and geocentric cosmos with Christian theology. Aristotle had laid out the first geocentric system, with the planets turning in perfect circles around the fixed earth, embedded in crystal spheres. The earth was composed of four elements that all sought their natural place along a vertical (towards or away from the earth's center) while the heavens of a fifth more perfect element that moved naturally in circles. Ptolemy (2<sup>nd</sup> century AD) elaborated upon Aristotle's geocentric model, introducing various geometries (such as epicycles and deferents) to explain retrograde motion; his model worked well enough to perpetuate the geocentric model for over a thousand years. The geocentric model was well-suited to the Christian view of the cosmos, which saw in the earth's centrality implications for an anthropocentric teleology, i.e., humanity created in God's image and essential to the divine plan. <sup>39</sup>

The Copernican revolution shifted the center of the universe from the earth to the sun. By assuming a mobile earth, turning and orbiting, around the fixed sun, he addressed various discrepancies in the motions of Ptolemy's system.<sup>40</sup> His heliocentric system is still finite, and still has a center. Even so the idea of geocentrism did not fall easily, for Tycho Brahe (1546-1601) who managed to return the earth to the center of the system, with all other planets revolving around the sun. (Brahe did however begin to undermine the ancient model when he observed the first recorded change in the heavens, witnessing the emergence of a new "star" in 1572 (a supernova), a monumental event implying that the celestial realm was eternal, incorruptible, and unchanging.)

Despite the evidence for heliocentric theory began to accumulate, however. German mathematician Johannes Kepler (1571-1630) defended the heliocentric theory but entertained other possibilities for the shapes of the planetary orbits. He discovered their elliptic nature, with sun at one focal point, as well as the laws of motion that governed them. Kepler's laws would prove essential to Newton's explanation of planetary motion in terms of mechanics and gravity, the culmination of classical physics. The movement of the planets had finally been explained in physical terms, not supernatural ones. The differences between the celestial and sublunary realms had begun to be effaced—even despite the beliefs of Kepler and Newton themselves, who both saw a divine order in their systems. For Galileo also had begun to chip away at the celestial spheres, with his telescopically aided observations of imperfections and unexpected cosmic irregularities that hinted at material similarity between heaven and earth, a similarity confirmed by his experiments with

<sup>&</sup>lt;sup>39</sup> A geocentric cosmos and anthropocentric teleology are not necessarily linked or mutually implied, as I will discuss below.

<sup>&</sup>lt;sup>40</sup> Namely, the separation of uniform motion from constant distance to the center of orbit; a planet viewed from the center would seem to move faster, then slower. The Copernican model offered a better explanation of retrograde motion, by considering the position of the (now mobile) observer. Published in 1543, the year of his death, the Copernican model identified the correct order of planets, distance from the sun, and their orbital periods.

falling objects Galileo's discovery that the same laws of motion governed both realms also contributed to what Louis Dupré refers to the "homogenization" of the cosmos."<sup>41</sup> The vertical hierarchy of heaven, earth, and underworld had begun to blur, and these zones would ultimately merge into one vast and undifferentiated space.

Not only was the earth no longer at the center, eventually the realization would dawn that the vastness of the universe precluded any meaningful center at all. This decentering of the earth had two consequences. The explanation for motion was thrown into question, for things could no longer be said to move towards their "natural place" in the middle of the cosmos.<sup>42</sup> It also undermined the geocentric teleology that saw humanity as having a special place and destiny in the wider scheme of things.

### 6.4.2 The Emergence of Modern Space: From Void to Space

Along with the changed idea of the cosmos came a new understanding of space itself. For Koyre, the revolution in astronomy was linked to a shift in the very notion of space itself: it entailed "the replacement of the Aristotelian conception of space—a differentiated set of innerworldly places—by that of Euclidean geometry—an essentially infinite and homogeneous extension—from now on considered as identical with the real space of the world."<sup>43</sup> Space, no longer a property of things, would become an independent geometric reality of its own. The history of the emergence of modern space is complex: early and late Scholastic thought played a role along with later scientific and mathematical inquiry. The space beyond the cosmos, the nature of the void, the possibility of space without bodies, the possible extension of God, all played a role.

The earliest notions of space, from Aristotle onwards, begin with the idea of the void. Aristotle had rejected its very possibility. Opposed to the atomist notion of matter partly filling empty space, he took the cosmos to consist of discrete, contiguous substances. Beyond his cosmic plenum, nothing could exist—neither time, place, or void. Nor did the cosmos admit of any void: place was defined in terms of bodies as a two-dimensional contour or outline of the surrounding body, and thought to be an accidental property of a substance.<sup>44</sup> Early medieval thinkers took Aristotle as their point of departure, inheriting his skepticism about the independent existence of empty space.<sup>45</sup> They gradually began to question its definition and its ontological status. For instance, is a vacuum, a place deprived of a body, merely nothing, or it is something? The vacuum was initially pictured in relation to discrete objects (by imagining them away)

<sup>&</sup>lt;sup>41</sup> Dupré writes, "Celestial bodies, previously reputed to belong to a different, more perfect order, now became subject to the same general law of motion. Henceforth uniformity not harmony counted as the determining factor. The mathematical method used universally for measuring motion would, in principle, abolish the traditional distinction between celestial and terrestrial mechanics. We may regard this homogenization of the cosmos by universal mathematical laws Galileo's most revolutionary achievement. Theologians, already disturbed by the scriptural problems provoked by the new cosmology, understandably felt reluctant to abandon a theory on which the transmission of divine causality hitherto had rested," (*Passage to Modernity* (New Haven: Yale University Press, 1995), 68.

<sup>&</sup>lt;sup>42</sup> See discussion of Cusa, below. Cusa had challenged the center on a speculative level.

<sup>&</sup>lt;sup>43</sup> Alexandre Koyré, From the Closed World to the Infinite Universe (Baltimore: John Hopkins Press, 1957), viii.

<sup>&</sup>lt;sup>44</sup> Aristotle reasoned that if a void had dimensions, it would be a body itself and thus incapable of receiving any other body. Moreover, the isotropic nature of the void (no intrinsic directionality, such as up and down or centrality) was at odds with his theory of natural motion and natural place.

<sup>&</sup>lt;sup>45</sup> As early as the 14<sup>th</sup> century, the medieval philosopher Hasdai Crescas had challenged key aspects of Aristotle, arguing against natural place as the cause of motion and suggesting the universe as an infinite void.

but the debate about finite voids eventually shaped the discussion of extra-cosmic space, i.e. whatever lay beyond the limits of the celestial spheres.

Early Scholastics suggested that a vacuum could be seen negatively, as the "lack of pure plenum" or positively, as a "corporeal dimension" that was separate from all natural forms."<sup>46</sup> They began to discuss the space occupied by a body as distinct from the body itself. Was this "internal space" always occupied by a body, or was it "a separate dimensional entity" that could (temporarily) exist in the absence of body?<sup>47</sup> Here already, with this speculation on the possible separation of space from body, we see the beginnings of what would be the ultimate detachment of space from matter.<sup>48</sup> Various subsequent thinkers continued along this path, coming to see it as independent of and prior to all bodies in the universe. As early as the 14th century, Italian natural philosophers began to question Aristotle's thinking on place and natural motion, transforming space from an accident of a substance to an entity of its own.<sup>49</sup> They reasoned that a corporeal space would, as Aristotle held, be unable to hold another body. If space was not corporeal, however, it seemed superfluous and imaginary by comparison. Some thinkers took the route of equating matter with spatial extension as did Buridan, Suarez, and Descartes. Others assumed space had an independent existence, but was incorporeal. In the mid-seventeenth century, the latter line of thinking found its champion in French philosopher and mathematician Pierre Gassendi, who conceived of space and time as absolute and uncreated, a "necessary, infinite, immobile, and incorporeal datum of three dimensions."<sup>50</sup> Newton adopted Gassendi's absolute space as the reference frame of "true" motion for his physics: the first law of motion presupposes an absolute reference system.<sup>51</sup>

The emergence of modern space, an abstract, infinite and incorporeal three dimensional field, is closely associated with physics, and the objective motion of bodies. Yet metaphysical speculation about creation, the void, the locus of the divine also played a role in the early ruminations on space. Once space became seen as independent from body, it came to take on certain traits – infinite, incorporeal, unchanging-which so resembled those traditionally attributed to God that that one could hardly be discussed without the other. Gassendi still considered the divine presence in relation to space to be a real problem, for God's perfection entails an infinite immensity such that space is replete with the divine presence. "It follows from the perfection of the divine presence that it be eternal and immense."<sup>52</sup> Newton also conceived of infinite space in relation to the divine presence, holding space to be God's "sensorium." This view failed to receive the same reception as his mathematical and physical discoveries; it was promptly challenged by Leibnitz and others.

<sup>&</sup>lt;sup>46</sup> Edward Grant, Much Ado About Nothing (Cambridge: Cambridge University Press, 2011), 13.

<sup>&</sup>lt;sup>47</sup> Grant, 14.

<sup>&</sup>lt;sup>48</sup> This was not an easy step, for it required thinking of space as incorporeal. To think of space as existing on its own, yet incorporeal, was somewhat of a paradox: for how can something exist as the framework of physical reality that is in no way material?

<sup>&</sup>lt;sup>49</sup> See Max Jammer, "The Emancipation of the Space Concept from Aristotelianism" in *Concepts of Space: the History of Theories of Space in Physics*, 3<sup>rd</sup> ed., (New York: Dover Publications, 1993).

<sup>&</sup>lt;sup>50</sup> Jammer, 93.

<sup>&</sup>lt;sup>51</sup> Jammer, 101. The movement of the planets were no longer guided by divine principles, but by a formula relating mass to distance. This paradigm held for centuries and still governs classical physics. Still, Newton's absolute space presumes an absolute center: now the center of gravity of the solar system. This "unprovable cosmological assumption" was challenged even then (ibid.). Only in the early 20<sup>th</sup> century did Einstein reveal the limitations of Newton's physics ( in his relativistic universe lengths and durations are relative to the reference frame of a given observer.) <sup>52</sup> Grant, 211.

Newton's success in describing motion of the planets in purely physical terms, however, had laid the groundwork for a mechanistic world that needed no guidance from divine forces or agency.<sup>53</sup> The space of the heavens was "detheologised" as Panofsky describes it, and the infinity once belonging to God became a trait associated with the space itself, now the incorporeal and quantifiable condition of all material reality. Panofsky beautifully expresses the full scope of the shift from perceptible place to modern space: "Actual infinity, which was for Aristotle completely inconceivable, and for high scholasticism only in the shape of divine omnipotence, that is, in a *huperouranious topos* (place beyond the heavens) has now become *natura naturata*. The vision of the universe is so to speak, detheologized, and space … now becomes a 'continuous quantity, consisting of three physical dimensions , existing by nature before all bodies and beyond all bodies, indifferently receiving everything.'"<sup>54</sup>

As Dupré observes, the very notion of causality was overturned when motion was recast in terms force and inertia—an achievement initiated by Galileo and refined by Newton. The justification of a divine being as the ultimate power behind all ongoing motion was no longer needed in a world guided by inertia instead; the initial impetus for motion once given was adequate for it to run on its own--hence the idea of a clockwork universe.<sup>55</sup> With the persistence of bodies through inertia, and explained through physics, God's role shrank to that of the watchmaker and natural place was explained in terms of a universal law, applicable to any physical body.<sup>56</sup> And as Dupré points out, this modern definition of space—a quantifiable field free of any perceptible traits—lent itself to objectification and to Galileo's distinction between primary and secondary qualities. In other words, modern space is objective space, and thus the precondition for, and reinforcement of, the opposition between subject and object.<sup>57</sup>

#### 6.4.3 From Geocentrism to Anthropocentrism: A New Foothold

With this new understanding of the cosmos and of modern space, humanity had to re-establish its "existential foothold" within the cosmic order and orient itself anew. The geocentric model had been hierarchically ordered, with all elements and beings seeking their proper, natural place. The natural motion of sublunary objects followed the apparently absolute dimension of up and down, while the more perfect celestial bodies circled above in a higher

<sup>&</sup>lt;sup>53</sup> "One revolutionary conclusion of Galileo's new system was that power need not continuously flow from God once nature became endowed with a uniform intrinsic necessity of its own...The new science of mechanics did not dispense with a Creator who would initiate motion, but it appeared to withdraw God from nature after his creative act." (Dupré, *Passage to Modernity*, 68)

<sup>&</sup>lt;sup>54</sup> Panofsky, Perspective as Symbolic Form, 67.

<sup>&</sup>lt;sup>55</sup> "The communication of motion, which had played such an important role in the ancient worldview and on which major arguments for the existence of God had rested, lost its significance in a mechanistic order where bodies, once they moved, would continue to do so until stopped by an external cause. It needed no further assistance after it had received its initial impulse. The new science of mechanics did not dispense with a Creator who would initiate motion, but it appeared to withdraw God from nature after his creative act" (Dupré, 68).

<sup>&</sup>lt;sup>56</sup> Dupré considers natural place to be "one the most resistant of the Aristotelian notions" and suggests its persistence is due to "the role which it had played in representing God's ordinary presence in traditional cosmology." I would suggest that it is also due to the factors mentioned in Chapter 5: the empathy of our bodies with all heavy objects, the perpetual act of balancing, the phenomenological stability of the earth.

<sup>&</sup>lt;sup>57</sup> Dupré observed that defining space in terms of quantitative dimensions foreshadows the distinction between primary and secondary qualities (instituted by Galileo), which in turn strengthened the subject/object opposition, since these "secondary qualities are entirely conditioned by subjective perception, even though they may have an objective foundation" (77).

modality, a model of perfect regularity. The vertical axis had come to imply a greater or lesser degree of ontological perfection. Motion was primarily teleological, that is, created beings are lacking, incomplete, moving towards some implicit end; whatever undergoes change is moved by the ultimate source and end in which they are ontologically grounded. In such a world, teleology prevailed over liberty, natural ends over freely chosen ones.

With the astronomical revolution, the cosmos would gradually cease to be what Koyre called a "finite and wellordered whole, in which the spatial structure embodied a hierarchy of perfection and value."<sup>58</sup> It was revealed instead as pure and endless extension, governed by mechanical motions and "unified only by the identity of its ultimate and basic components and laws."<sup>59</sup> Along with the gradual but drastic transformation of this physical model of the physical universe came a re-evaluation of the associated religious, philosophical and cultural norms. The idea of the earth floating anchorless in this directionless vast emptiness was received by some with a sense of ecstasy and liberty, with a sense of dread by others.<sup>60</sup> For Bruno, the infinite universe was a liberation from error: Man has "wandered among the stars, passed beyond the borders of the world" and he has dispelled the "imaginary walls" of the celestial spheres."<sup>61</sup> Less than a century later, however, Pascal would feel himself "suspended between the two gulfs of the infinite and the void" and famously declare his dread of the "eternal silence of these infinite spaces."<sup>62</sup>

No longer the symbolic fixed center of the limited cosmos, the moderns had to reassess their place in the world and literally find new ways of relating to the vast reaches of space. How does one find a foothold in an open-ended universe whose "center" is unclear? As if to compensate for the loss of the stable geocentric order, a new anthropocentrism emerged. Never again would humanity be blind to the fact that our viewpoint and reference frame greatly affect our perception. With the realization that appearances depended on one's standpoint and perspective, the geocentric order gradually gave way to an anthropocentric one, now based on the perceiving subject, the individual human being. <sup>63</sup>

#### a) The Waning of Geocentric Teleology

Before discussing the turn to anthropocentrism, we should clarify the role of geocentrism. Why should the physical centrality of humanity have any implications for their ultimate significance, or for our view of our value or purpose? There is indeed no logical reason that a geocentric cosmos should be geared towards human ends. In *The Genesis of the Copernican World*, Hans Blumenberg takes issue with the "anthropocentric interpretation of geocentrism."<sup>64</sup> The origins of the geocentric cosmology trace to Aristotle; yet he ascribed no primary value to humanity because of it. For Blumenberg, "the coincidence of the center of the universe and the middle of the Earth in the Aristotelian cosmology is a contingent fact having physical, not metaphysical importance. It has no value as an indicator of how man should assess himself and

<sup>&</sup>lt;sup>58</sup> Koyre, viii.

<sup>&</sup>lt;sup>59</sup> Koyre, viii.

<sup>&</sup>lt;sup>60</sup> Harries, Infinity and Perspective, 31.

<sup>&</sup>lt;sup>61</sup> Bruno, cited in Harries, 31-2.

<sup>62</sup> Pascal, Pensées, Section 2, no. 206.

<sup>&</sup>lt;sup>63</sup> As Karsten Harries starkly concludes, "our whole geocentric cosmology is born of this mistake," that is, failure to account for our own perspective (*Infinity and Perspective*, 32).

<sup>&</sup>lt;sup>64</sup> Blumenberg, The Genesis of the Copernican World, (Cambridge, MIT Press, 1987), ix.

classify himself within nature."<sup>65</sup> Aristotle's schema put humankind at the geometric, but not the teleological center: the cosmos as whole was oriented towards the unmoved mover. For the Greeks, "man is not the highest-ranking being in the cosmos; he is far surpassed by others, and specifically, we are told, by the heavenly bodies. Neither god nor the planets are concerned with humanity or serve their ends."<sup>66</sup> Scholasticism restored the link between geocentricity and anthropocentric teleology, placing human salvation at the center of the cosmic narrative in which all beings carry out God's final purposes--provided that the human protagonists served the greater glory of God.

The new center would be established not as a physical place, a point in the cosmos, but rather in the perceiver whose position and capacities had so strongly shaped the appearances. That the appearance of the cosmos might depend on our own perspective was suggested by the thought experiments of Nicolas of Cusa, the 15<sup>th</sup> century cardinal.<sup>67</sup> Beginning with the premise that the entire created universe is in motion, he concluded that the universe can have no center at all. (Cusa proved in this respect more radical than the first modern astronomers.) Instead, any observer would always seem to be at the center of things. "It would always seem to each person (whether situated on the earth the sun, or another star) that he was at the "immovable" center, so to speak…" relative to which "all other things were moved."<sup>68</sup>

The teleological implications of geocentricity are thrown into doubt by Cusa, claims Dupré. "In an infinite universe, the "idea of a fixed center" has no meaning."<sup>69</sup> Or, as Koyre puts the same idea, if the "world-image of a given observer is determined by the place he occupies in the universe" then there is nothing intrinsically unique to any of them, and thus "none of these places can claim an absolutely privileged value.<sup>70</sup>" Harries also argues that Cusa's questioning the absolute centricity of the world posed a speculative challenge to the traditional hierarchical cosmos, and thus his influence was significant even if verification would only come later. For in this centerless cosmos, the cosmic realms and their natural vertical motion lose their grounding: "What matters is the reflection on perspective and how it is used to undermine the traditional idea of a center. With that undermining, the traditional understanding of cosmic heterogeneity also has to collapse. What significance did "up" and "down" now still possess? What place could one

<sup>65</sup> Ibid, 182.

<sup>&</sup>lt;sup>66</sup> Blumenberg, *The Genesis of the Copernican World*, 181. For Blumenberg, the Aristotelian cosmos has a "split teleology" insofar as all things in the sublunary realm prove useful to humans and their aims, while the celestial beings remain indifferent to the sublunary realm. "Between this supralunar world and the sublunar one, there is an absolute division of directions of teleological reference. This division prevents the universal centering of a homogeneous teleology of the cosmos, entirely apart from the question whether man could be this center or be in it" he adds. (182) Only the Stoics had ascribed read teleology into geocentrism --valuing accord with nature as the path to a good life. if the cosmos seemed matched to human flourishing, it was insofar as humans conformed to nature (itself permeated with the spirit of the divine), and not vice versa. Stoic theology followed from their cosmology, not vice versa, argues Blumenberg (175). Medieval Christianity took up this stoic "teleocentric egocentricity" with in their quest to synthesize Aristotle with Christian doctrine. They too would read symbolic importance to the position of mankind within the divinely created cosmos. The scholastics managed to unify Aristotle's ontologically different realms, with their separate teleological centers; they brought them together under a single purpose, namely, the glorification of god (193-6). <sup>67</sup> Cusa is also remembered for having first applied the description of God--a being whose circumference is everywhere and whose center is nowhere--to the extra-cosmic void beyond the cosmos. In doing so, he joined theology and cosmology, observed Harries, and opened the way to "reflection beyond the medieval cosmos" (Harries, *Infinity and* 

Perspective, 31). 68 Cusa, cited in Harries, 30.

<sup>&</sup>lt;sup>69</sup> Dupré, 61.

<sup>&</sup>lt;sup>70</sup> Koyre, 16.

assign to heaven and hell in the kind of universe envisioned by Cusanus?"71

Though Cusa's speculations born of metaphysical speculations on the relation of the finite cosmos to an infinite god, rather than any scientific evidence, they were nonetheless harbingers of a changing approach to the study of the cosmos. His ideas would have a strong influence on Giordano Bruno, known for his vigorous advocacy and indeed martyrdom in defense of the Copernican system (which he expanded into an infinite cosmos). Bruno too, drew on the role of the observer in his arguments for an infinite cosmos, and the observer's relation to the horizon. The circle of the terrestrial horizon can be compared to the finitude of the celestial spheres, and both are illusions due to our perception. "Just as we regard ourselves," Bruno writes, "as at the center of that [universally] equidistant circle, which is the great horizon and the limit of our own encircling ethereal region; so doubtless the inhabitants of the moon believe themselves to be at the center [of a great horizon] that encircleth this earth, the sun and the other stars, and that is the boundary of the radii of their own horizon."<sup>72</sup> There is no horizon as such, for we can always move beyond this limit which is again a feature of our perception. And as are able move past the horizon, so too might the celestial spheres only appear to be the boundaries of the world.

The work of Cusa and Bruno reiterated the importance of the observer's situation and deprived geocentricity of its teleological import. With his infinite cosmos, Cusa "emptied the idea of a physical center of its meaning," argues Dupré.<sup>73</sup> Yet Cusa also laid the way for the crucial redefinition of the center, no longer physical, but spiritual, and situated in the human being. Dupré explains how Cusa's view of the person, as "a contraction of God's all-comprehensive nature" who stands at the center of the universe by virtue of his spiritual nature, a kind of microcosm of the whole, had a brief but important influence on early humanism.<sup>74</sup> Such an image of humanity ultimately gave way, however, to the paradigm we are most familiar with, that of an autonomous, secular subject, standing over and against the world as its represented object.

#### b) Anthropocentrism

The uncertainties arising from revisions to cosmological and divine orders were resolved by setting up a new epistemic foundation in the individual human consciousness.<sup>75</sup> "The human mind assumed the part which earlier generations had attributed to God or Nature...resulting in a separation between a meaning-giving mental subject and a physically given, but meaning dependent world."<sup>76</sup> Such is the version of modernity I will present below; namely in which the human subject becomes the sole center, independent of God and distanced from nature. We might, for convenience sake, call this the egocentric version. Yet Dupré suggests that an alternative was not only possible, but was

<sup>75</sup> The upheaval came not only from the scientific reconfiguration of our idea of the universe, but also from late scholastic thought's analysis of the relation of an omnipotent deity to the created world.
<sup>76</sup> Dupré, 58.

<sup>&</sup>lt;sup>71</sup> Harries, Infinity and Perspective, 3.

<sup>&</sup>lt;sup>72</sup> *De l'Infinito et Mondi* Dial. 2, pp. 40-41. Cited in Singer, "The Cosmology of Giordano Bruno," *Isis*, Vol 33 #2, pp 192-3 of pp 187-196). The result is the illusion of geocentrism, as he continues: "The earth no more than any other world is at the center; moreover no points constitute determined celestial poles for our earth, just as she herself is not a definite and determined pole to any other point of the ether, or of the world space; and the same is true of all other bodies." <sup>73</sup> Dupré, 97.

<sup>&</sup>lt;sup>74</sup> Ibid.

<sup>180</sup> 

briefly the state of affairs. Let me briefly describe this other paradigm, which is more allocentric, insofar as the human center maintains an awareness and orientation to a focus beyond its own, namely the divine.

### c) The Path Not Taken: Harmonious Synthesis

Describing a historical path not taken, Dupré describes a "bi-centric" model, dually focused on the divine being and the human one. "Thus when early humanists placed a new and strong emphasis on human creativity, they added a secondary center to the one traditionally reserved to the transcendent source of power."<sup>77</sup> This movement within early humanism consisted in "retheologizing nature" and giving person as playing a key role within it. As noted above, Cusa had taken the person as spiritual center of the now centerless cosmos, an idea rooted in Neoplatonism. It influenced the early humanist movement, for which mankind was a microcosm of all nature, that is, part of divine nature, and intrinsically in harmony with it. As the spiritual apotheosis of nature, the human being is tasked with perfecting nature's forms, complementing and correcting them through artistry. He or she is "responsible for bring all creation to its destined perfection."<sup>78</sup> This noble ideal, with its balance between the individual, the cosmos, and God, left strong traces in the religious art and architecture of the Baroque era, as we shall see below, and in the humanist legacy. Yet this harmonious vision did not prove durable. "What for early humanists and Renaissance artists had been a constructive dialectical tension turned into an opposition between mind and nature," argues Dupré. "The philosophy of the subject converted this center into a primary one. Except for the short-lived balance achieved during the Baroque period, that model prevailed and in the course of time succeeded in affecting every aspect of culture with its theoretical and practical benefits and liabilities." <sup>79</sup>

Nature will be ascribed a "subordinate, increasingly instrumental, position," and the philosophy will base itself in the certainties of consciousness, such that "mind alone became the source of meaning"<sup>80</sup> This more familiar view of the modern subject, autonomous and egocentric, emerges in the seventeenth century and has retained its hold on western culture ever since. It is largely this paradigm to which I refer below, unless otherwise noted.

#### 6.5 The Horizontal as the Plane of Human Initiative

As the medieval age passed into the modern, and religious spirit gave way to the secular subject, the vertically oriented cosmos was reconfigured, gradually yielding to the horizontal space of modernity. Modern space is horizontal, ontologically flat, that is, secular and practical. The axis mundi of linking the secular world to the sacred loses its meaning as the distinction between celestial order and earthly is effaced; the dominant axis will instead become the line of unimpeded travel over the surface of the earth.

The ground of truth and knowledge no longer rested in a divine transcendent power: knowledge was no longer acquired from a "vertical vantage point," i.e., a god's eye view, nor by pure reason unencumbered by empirical circumstance. Instead, it came from "dwelling purely and constantly among the facts of nature."<sup>81</sup> Empirical

<sup>77</sup> Dupré, 250.

<sup>&</sup>lt;sup>78</sup> Dupré, 96.

<sup>&</sup>lt;sup>79</sup> Dupré, 250.

<sup>&</sup>lt;sup>80</sup> Dupré, 50.

<sup>&</sup>lt;sup>81</sup> F. Bacon cited in Maleuvre's A History of Our Infinite Longing, 177.

observation of nature took priority, in hope of attaining a secular, scientific, objective understanding of the actual world. Authority and truth and value were to be found in the tangible realm of the here and now. A new self-reliance and agency arose, along with a growing self-awareness. Freed from any norms not of their own making, humanity redirected their attention towards their own affairs on the terrestrial realm; modern science set about investigating the natural world and reconfiguring it to human ends. Both science and humanism and science sought to improve life in this world rather than the next.<sup>82</sup> Dupré refers to the "characteristically modern belief in the unlimited human ability to conquer nature by rational methods combined with an unshakable confidence in a state of universal happiness that would follow from this conquest."<sup>83</sup>

The humanist movement stressed the dignity and value of the individual in the ethical realm, promoting selfcultivation through study of the classics and the arts. They "strove to vindicate the human and temporal view of things, rather than the divine and doctrinal" and they "welcomed being thrown back on their own ingenuity to puzzle out nature, society, or the conduct of life."<sup>84</sup> In modern philosophy, the subject's impact on how the world appears would henceforth be factored in, the world understood as represented for a given individual, with the rational mind setting the standards for veracity and value. The viewpoint of the individual became paramount.

Renaissance perspective emerged as the paradigmatic representation of modern space. Like humanism, it depicted a naturalistic world from the human point of view. Its widespread popularity as a formal device testified to the new importance of the subjective viewpoint, that is, the modern subject, for whom space now appeared as a geometrical, incorporeal and infinite grid--the framework of the natural world. Karsten Harries describes modern space as an 'infinite field that human beings attempt to master by projecting onto or into it poles and lines of their own construction."<sup>85</sup> This tendency to geometrize space (thus measuring and controlling it) was characteristic not only of represented space, but also of reality, that is, it came to structure the interaction with the actual world.

The earth's surface beckoned to be navigated, mapped out, interconnected, and optimized. Explorers set out to chart unknown regions and distant seas.<sup>86</sup> The surface of the globe would become crisscrossed with lines of latitude and longitude, trade routes, and national boundaries. Meridians circumscribing the globe aided with precise calculation space and time, enabling wider frames of reference and longer trajectories. Space was "measured, calibrated, mapped out in terms of journeying, of time and distance, of intended and implemented travel."<sup>87</sup>

<sup>85</sup> Infinity and Perspective, 79. It might well be asked why this modern infinite space evokes horizontality. Why shouldn't the end of geocentrism and the abolishing of limits be associated with a sense of infinite depth instead? Modern space is horizontal for us because we represent this geometric abstraction from our own viewpoint, typically earthbound.
 <sup>86</sup> The growing economic interdependence and technological bridging of distances led the prominent economist Thomas Friedman to declare, in his book of the same name, that the world is now flat. *The World is Flat: A Brief History of the Twentieth Century* (New York: Farrar Straus & Giroux, 2005).

<sup>&</sup>lt;sup>82</sup> Dupré refers to the "characteristically modern belief in the unlimited human ability to conquer nature by rational methods combined with an unshakable confidence in a state of universal happiness that would follow from this conquest" (Dupré, 74). He warns against a scientific research so focused on practical benefits that it turns into a mastery of nature rather than a disinterested inquiry into its workings.

<sup>&</sup>lt;sup>83</sup> Dupré, 74.

<sup>&</sup>lt;sup>84</sup> Maleuvre, A History of Our Infinite Longing, 145.

<sup>&</sup>lt;sup>87</sup> Maleuvre, A History of Our Infinite Longing, 146.

If the horizontal is the plane of human activity, then the early modern era saw the full discovery and taking possession of this plane. Voyages were undertaken in search of new trading goods and new routes, resulting in sustained contact with far-flung realms. Newly discovered lands were charted and turned into outposts of centralized nation states, their resources and inhabitants appropriated. The worldly powers of church and state both sought to consolidate their power and expand it, reinforcing their centers while projecting a far-flung scope and influence.

The transformation from a vertically oriented world to a horizontal one is strikingly evident in the maps of the different ages. A well-known depiction of the world from 1300, the Hereford map, shows the entire Christian cosmos. Along with major and minor cities, it also shows places figuring in the Christian narrative, such as Eden (inaccessible, enclosed by walls and fire) and the Red Sea (at the moment of parting). It also locates Noah's Ark, Sodom and Gomorrah, various sites of Greek mythology. Most notably, the earth as a whole is circumscribed by Christ and the angels; the former sits above the world in judgement, while the latter escort the saved and the damned to their final, separate destinations above and below the human plane. The world includes the divine agencies beyond the terrestrial plane, as well as unfamiliar ones within it (unicorns, elephants, cynocephali, *etc.*). Later maps, by contrast, answered to the needs of navigators, not those of souls seeking consolation. They showed the prevailing winds and the shapes of coastlines, not imagined eschatological diagrams. Whereas medieval cartography had focused on the ultimate destination of the soul, beyond earthly space and time, modern maps presented the tools for orienting oneself within it. Practical action on the natural world took priority, the horizontal plane of the earth was sufficient unto itself, no longer situated with respect to the cosmic realm.



Maleuvre's notion that we now look outwards, not upwards, at the stars thus has also not only a directional meaning but a symbolic one.<sup>88</sup> With a fading reverence for the heavens, priorities would ultimately shift toward improving our lives on this earthly plane. The secular here-below, no longer under divine oversight or guided by teleological ends, is directed instead by human freedom and choices. Human communities will no longer be organized around an axis mundi, but linked by the infinite horizontal axes prominent in the art and architecture of the era. Much of the "horizontal" nature of the modern world is due to the creation of interlinkages across the globe.

Having explored the structural and philosophical context of the modern shift towards horizontality, let me now finally turn to the symbolic instantiation of these dimensions, verticality and horizontality, in the visual and spatial arts. I will focus on the visual arts, particularly the form of perspective, as well as the architecture and planning of the Baroque era. Certain works in the late medieval to early modern exemplify the problem of reconciling the vertically ordered cosmos, centered on a transcendent presence, with the secular, naturalistic horizontal thrust of human activity.

#### 6.6 The Horizontal in the Visual and Spatial Arts: From the Center to Infinity

Perspective is a way of creating an image of a spatial world by means of geometric projection; the three dimensional world is transcribed onto a theoretical picture plane imposed between the viewing subject and the three dimensional world. First employed in the early Italian Renaissance, perspective enabled a kind of paradox. Panofsky in his canonical work *Perspective as Symbolic Form* describes it as "a translation of physiological space into mathematical space: in other words, an objectification of the subjective." It showed a view of the world from a specific individual viewpoint, thus implying the value of the individual and their particular viewpoint. Yet the view it presented was the space that would appear to any viewer at that point; it showed the observer's relation to modern space, the infinite, incorporeal, geometricized Euclidean field."<sup>89</sup> Both subjective and the objective sides of perspective are key to its significance. From the subjective side, perspective is rightly considered as emblematic of Renaissance humanism, with its emphasis on the value of individual, empirical experience. It shows the "centering of reality on the observer," a viewer who can be situated anywhere, "a chance itinerant viewer."<sup>90</sup> Yet it carried the virtues of objectivity: an apparent depiction of things as they are in themselves, factually presented, thus disinterested and potentially authoritative.

This centering of reality for the benefit of the viewer affects how we see nature, first, and how we grasp ourselves as well. Maleuvre describes how, in perspectival vision, the "land fans out under the observer's gaze."<sup>91</sup> It forms a field of prospects—perhaps for contemplation and appreciation perhaps, or else a domain to be made use of, occupied, explored. It is grasped as "distance-shot-through-with-agency".... a "set of moving coordinates and prospects" ready to be explored and mapped, surveyed and put to some use.<sup>92</sup> By presenting the world as a scene focused on the viewer, it

<sup>&</sup>lt;sup>88</sup> Maleuvre, 177.

<sup>&</sup>lt;sup>89</sup> Panofsky stresses the self-aggrandizing nature of perspective, a tendency that corresponds to the spirit of exploration and colonization: "the history of perspective taking understood with equal justice is a triumph of the distancing and objectifying sense of the real, and the triumph of the distance-denying human struggle for control; it is as much a consolidation and systematization of the external world, as an extension of the domain of the self"(67).

<sup>&</sup>lt;sup>90</sup> Maleuvre, 147.

<sup>&</sup>lt;sup>91</sup> Maleuvre, 146.

<sup>&</sup>lt;sup>92</sup> Maleuvre, 146.

seems to reinforce the impression that the landscape lies ready and available for as a scene for his or her purposes.

Being presented with the experience of one's own viewpoint also brings a heightened self-awareness—as with the experience of depth mentioned earlier. Maleuvre sees perspective as "the surface crest of a deep existential sea change: its real source was at the newfound centrality of the mortal self. It is it—the finite I—that newly defined the complexion of society and religion."<sup>93</sup> This self-awareness, along with a sense of one's own finitude is intensified by the observer's experience of the horizon, he claims, for "the horizon exists with respect to a beholder: the latter must be aware of how far he can see and cannot see" and thus the It assumes a new intensity of self-awareness."<sup>94</sup>

If perspective conjures up the finitude of the human viewer, it does so in relation to the infinity of space. Both are made evident via the horizon itself. Here, infinity is symbolized by the convergence of all lines perpendicular to the picture plane, at the vanishing point. As the viewer, one perceives the horizon as the limits of one's own perspective. Yet its stark emptiness, conjuring up the unending distance beyond, further ground and further sky, fascinates not only the eye but also the mind, which longs to see further. For Maleuvre, the horizon "is not a place and it is not a sight"...it is an infinity we cannot actually see, a place where "vision melts away."<sup>95</sup>

To such varied subjective impressions, we can now contrast some objective features of perspective. Both the type of space represented and the method used to depict it are systematic and orderly. The space depicted is the homogeneous, isotropic, infinite and unified space of modernity, associated with modern physics. The method geometric projection, itself based on an increasing understanding of optics, ensured an accuracy of dimensions and proportions, resulting in a realism that fascinated artists and architects alike. The method ensures the sameness of the representation for any observer (or light-recording device) at that position.<sup>96</sup> The world is thus measured and recorded both as it appears, and as it is.

Note that the objectivity of the representation depends on restricting spatial experience to the visual. In other words, of the entity of embodied spatial experience, only what can be captured by geometry enters the picture, namely, the visual aspects. This meant that the three dimensions of psychophysiological space, verticality, horizontality, and depth, are transposed into mathematical space as three sets of parallel lines. The vertical and horizontal axes remain visually akin to the experienced version, as they are already parallel to the picture plane and thus their projection onto it does not require much distortion. The axis of depth is transformed, however, as all lines perpendicular to the plane of vision, now the picture plane, come together at an ideal point on the horizon. (Indeed, perspectival rendering is the very conversion of depth (as felt by the body) into an objectified projection of depth for the eye, as seen in chapter three)

<sup>93</sup> Maleuvre, 151

<sup>94</sup> Maleuvre, 146.

<sup>&</sup>lt;sup>95</sup> Maleuvre, 149-50.

<sup>&</sup>lt;sup>96</sup> A mathematical representation of visible space, perspective's methods were akin to, and influenced by, the principles of optics. The science of optics had significantly progressed during the medieval period. Dominique Raynaud established the importance of Franciscan optics to the rise of linear perspective, noting the essential role of Islamic mathematician Ibn al-Haytham. The latter's experimentally proved that light travels in straight lines and that light rays enter the eye (rather than being emitted), and thus laid the foundations for medieval optics, which in turn informed the invention of perspective, the objective mathematical representation of vision. See Raynaud's *Studies on Binocular Vision: Optics, Vision and Perspective from the Thirteenth to the Seventeenth Centuries* (Dordrecht: Springer, 2016).

Depth is represented a point where all these lines converge, vanishing into "infinity", that is, a point infinitely distant from the viewer. This depth of the vanishing point--itself illusory—is always situated on the horizon. Ultimately, perspective is a means for converting all actual depth into a flat, objectified, purely visual analogue of space.

### 6.6.1 The Perspectival Rendering of Modern Space

As a "symbolic form" for how humanity perceived space, perspective relates to the figurative shift from the vertically oriented world order to a more horizontal one. A few key traits of perspective taken together brought a strong emphasis to the horizontal plane; namely, the viewer's position, the locus of infinity on the horizon, and the extended, unified ground plane.

### a) The New Viewpoint: Arbitrary and Anthropocentric

In keeping with the anthropocentric turn, it is organized around a central viewer, who could be situated anywhere on the earth's surface (or with respect to it). The viewpoint for a perspectival scene is selected arbitrarily and can be anywhere in space. It is a "freely chosen position of a subjective point of view."<sup>97</sup> Space rendered perspectivally is subjective insofar it shows how the scene would appear to a given viewer, but objective insofar as it is mathematically constructed, capturing space as any observer in that spot would register it. Thus perspective is an "abstraction" from perceptual, psychophysical space, one that depicts "precisely that homogeneity and boundlessness foreign to the direct experience of that space."<sup>98</sup> One might even think of perspective as retroactively fitting a viewpoint to objective, purely geometric space.

In practice, the viewpoint was generally placed so that the horizon line of the image would be approximately eye level. Thus the center of perception, and therefore of the whole spatial scene, is arbitrarily assigned to some ideal viewer on the ground plane. Due to the observer's relation to the ground, the horizon becomes the important compositional element, and the coordination of all elements with respect to it is key to the impression of realism and illusion of depth.

#### b) Infinite Modern Space and the Vanishing Point

The pictorial space unfurling to the horizon, laid out before the observer, epitomizes the infinite geometric grid of modern space. It is unified and homogeneous, constructed prior to the entities situated within it. The horizontals and verticals, all parallel, seem to continue beyond the frame of the picture. The axis of depth is unique, however: it does not radiate out from the observer (as it does in real space) but seems to conform instead to the gaze, converging neatly at a given point or points on the viewer's horizon. This endless depth is rendered by device of a vanishing point on the horizon, where the lines parallel to the picture plane converge.<sup>99</sup>

<sup>&</sup>lt;sup>97</sup> Panofsky, 67.

<sup>&</sup>lt;sup>98</sup> Panofsky, 31.

<sup>&</sup>lt;sup>99</sup> Depth is shown by the lines perpendicular to the horizontals and verticals of the picture plane. More than one vanishing point is typical, in constructing the space, a right and a left one. In theory, vertical parallels would also eventually converge above or below the horizon line, but this is typically not evident.

Situated at the eye level on the horizon, this geometric infinity point orders the entire horizontal plane.<sup>100</sup> It serves as a powerful focal point, both visually and symbolically. Visually, it is a point of convergence that draws the eye towards the horizon in the depths, forming a strong focal point that structures the whole composition. Space radiates outwards from it, much like divine rays of light emanated from faces of holy figures in religious iconography ( and indeed this crucial point will be occupied first by divine visage before it is taken over by secular imagery). Symbolically, it represents the infinite reaches of space, now detheologised and mathematised, rendered as a virtual point on the horizon.

The idea of infinity rarely fails to capture the imagination. It originally described the perfection of celestial beings. The idea of pure space as such, as it evolved through the middle ages and early modernity, had shared enough traits with the divine being (i.e, infinite, incorporeal, eternal, immobile) that it (space) was long inseparable from divine presence itself. Only after Newton was space given in purely secular terms, as an endless geometric field. Yet the idea of infinity remains compelling even when it is quantified and secularized as spatiality. We are left with a "detheologized" form of infinity associated with endless extension in all three dimensions--to the horizon and beyond.<sup>101</sup> This spatial infinity is represented in perspective as the ground plane running to the horizon. The locus of infinity was thus moved from the divine celestial realm to become a point situated on the horizon line. Perspective thus presents a figurative

transformation of infinity, from sacred to secular, vertical to horizontal.

The vanishing point as used in western perspectival art reflects these changing conceptions of infinity and our relation to it. illustrated in various canonical works of the time. Religious scenes tended to place a holy personage at the vanishing point, as with Van Eyck's *Lucca Madonna* (1437) and Da Vinci's *The Last Supper* (1495-98). This convention applied equally well to secular subjects: in Raphael's *School of Athens* (1509-11), the founders of philosophy are situated at the vanishing point. Van Eyck's *Arnolfini Portrait* (1434) famously placed a mirror reflecting the whole scene, like a mysterious eye looking back at the viewer, returning the latter's own gaze. Such compositions mirror the gradual shift from a theological infinite to a spatial and secular one.



Van Eyck's *Lucca Madonna* (1437) [Fig 6]. Holy visage at vanishing point.

[See additional figures on following page.]

<sup>&</sup>lt;sup>100</sup> When the three dimensions of psychophysiological are transposed into mathematical space, they become sets of parallel lines Those not aligned with the picture plane converge upon one or more vanishing points in the distance-- just as receding parallels converge in the distance in actual vision.



Da Vinci's *The Last Supper* (Milan, 1495-98) [Fig. 7] Face of Christ at the approximate vanishing point, locus of infinity.



Van Eyck's *Arnolfini Portrait* (1434) [Fig. 8] Mirror reflecting viewer at vanishing point.



Raphael's *School of Athens* (1509-11) [Fig. 9] Secular figures (Plato and Aristotle) at the vanishing point.

With the shifting place of infinity, on the terrestrial horizon instead of the celestial heavens, we have one more sign of the flattening of the ontologically distinct cosmic realms. Unlike the traditional cosmos, with its ontological distinction between superlunary and sublunary, these regions now form one unified continuum and all beings within them are "cut out of a common substance, obeying common passions and desires."<sup>102</sup> Modern space is now the same in all directions. Still, even the modern rendition of the infinite retains some mystery and lure, by evoking the depth of regions beyond the visible, all that is ineffable and ungraspable. The empty, distant horizon is both limit and opportunity, drawing us onwards, indefinitely. If the center is a point of rest and arrival, the horizon is its antithesis: a limit that always shifts and lures us further forward.

# c) The Ground Plane and the Unification of Space

From its somewhat tentative beginnings, linear perspective evolved to become more methodical and systematic, until it became the ideal form with which to depict the modern conception of space. Specifically, it gradually came to integrate the various discrete spatial zones of typical medieval art into the systematic, unified and unlimited field.

The art of the medieval era still situated its figures in an otherworldly context that evoked spatiality but was far from naturalistic. Typically a painting presents us with space that is bounded and contained, a setting for the main figures, like the space of a diorama. Its figures tend to be framed by sheltering baldachins or cloisters, structures possibly

reiterated in the frame itself, similar to how Gothic statuary are placed. The horizon, if present at all, is minimal: shady outline of a mountain to differentiate land from sky. A connection to the vertical is implied in various ways: by an arched form and golden radiant light, or more literally by the passage of figures like birds or angels. In Fra Angelico's *Annunciation*, for instance, the cloister where Mary sits has no ceiling, but opens up to a field of stars above; a circle of angelic birds hovers at the top of the scene.<sup>103</sup> In the background, a scene from an entirely



*Fra Angelico's The Annunciation.* (1440-45, Florence). [Fig. 10] The vertically oriented cosmos: Cloistered space with heavens overhead. Note the juxtaposition of different spatiotemporal events: The Annunciation is foregrounded, but the mythical expulsion from Eden in the background provides the deep context for the annunciation's significance.

# <sup>102</sup> Harries, Infinity and Perspective, 177.

<sup>&</sup>lt;sup>103</sup> Fra Angelico, *The Annunciation* (Florence, 1440-45). In the background, a scene from an entirely different place and time – the expulsion from the Garden of Eden-surprises us only because we have grown so accustomed to images which limit themselves to a unified scene in space and time, depicting a single space and time, not several that are superimposed.

different place and time – the expulsion from the Garden of Eden-surprises us only because we have grown so accustomed to images which limit themselves to a unified scene in space and time, depicting a single space and time, not several that are superimposed. Gradually, these typical interiors of religious iconography were opened up to include wider vistas, more continuous and naturalistic expanses, and a more prominent horizon. The discrete and limited religious scenes changed into wider, unified, unending vistas onto both natural or urban landscapes, as we shall see in some examples below.

The simple juxtaposition of persons, places, and events that satisfied the medieval eye would be set aside in favor of a method that subordinated these elements of the painting, figures and their setting, to a comprehensive unified spatial framework. Properly executed, perspective captures a single specific moment in space and time but one that goes on as far as the eye can see--or imagine seeing. This is achieved, technically, by making all the lines converge on the same vanishing point. This unification and geometrization of perspectival space was gradual, with partial preceding complete systemization, as Panofsky illustrates. In early efforts, for instance, the central orthogonals failed to come together at the center of the picture, as in Master Bertram's *Division of the Waters*, where a conveniently placed foot conceals the technical problem.



Master Bertram's *Division of the Waters* (Hamburg, 1383). [Fig. 11] Conveniently placed foot.

Some works did not initially unify all the orthogonals, as with *Duccio's Last Supper*; where the space is fragmented and incoherent, due to some orthogonals converging together (at the ceiling) and others remaining parallel (the table and its furnishings). Full unification of the space is found when all orthogonals converge systematically, not only the spatial framework but the objects within it, as with Dieric Bout's rendition of the Last Supper in the 1460's, another of Panofsky's examples.<sup>104</sup>



Duccio di Buoninsegna's *Last Supper* (Florence, 1308). [Fig. 12] Partial perspective with inconsistent orthogonals. Some converging, others parallel; bounded interior space with no extension beyond frame.



Dieric Bouts: *The Last Supper* (Leuven, 1464). [Fig. 13] Orthogonals converging on a single point both above and below for a unified space. Space extends beyond picture plane-on both sides and front, as if part of a larger whole.

This unified space within the painting then came to spread in all directions, stopping neither at the frame nor at the implied horizon. In such instances, the space is no longer enclosed or bounded by interior walls or distorted at the edges of the picture, as if separate from the frame; rather, it is depicted as if it could easily run past the frames edges. At this point, space has undergone the transformation from limited place into modern space. Like the space of reality, it was both infinite and continuous.

This underlying, unified ideal framework of space is implicit, suggests Panofsky, in the black and white tile floor pattern so highly favored in Renaissance art. While both coffered ceilings and tiled ground plane were perfect materials with which to instantiate infinite, homogeneous unified space, the black and white grid, in particular, became "an index for spatial values" that

<sup>&</sup>lt;sup>104</sup> Panofsky, 54-57.

enables us to read the distances to each of the bodies in the picture.<sup>105</sup> This device was "repeated and modified" with a "fanaticism," writes Panofsky, that is only clear in retrospect: he sees the tiled floor motif as a particularly apt rendering of "modern 'systematic space'" and calls it the "the first example of a coordinate system," used in horizontal floors "well before it had been postulated by abstract mathematical thought.<sup>106</sup> Like the Cartesian grid, the tiled ground plane is systematic, with an arbitrary center and no apparent boundary.<sup>107</sup> Moreover, it is similarly conducive to measurement, enabling discernment of "relative sizes as well as the distances of individual bodies" located upon it.<sup>108</sup>

The unification of the ground plane, then, is part of a moment when the closed and autonomous interior of religious space, as seen in baldachins and niches of medieval iconography, opens up and to become integrated with the terrestrial, human world. With this move, the verticality of the archetypal religious space acquires a horizontal, secular axis as well. All places -even sacred ones- come to be integrated in the infinite and unified field of modern space. In these developments, a sense of horizontalizing the world has begun to emerge.

#### 6.6.2 Symbolic Horizontality in the Space of Religious Painting

Late medieval and early Renaissance art testify to this paradigm shift, both in reality in the arts, of how space is conceived. They also illustrate the difficulties faced by artists who wrestled with this transition, continuing to lean on old conventions and models of space while also trying to incorporate the new ones. A few of the resulting works are telling in their very dissonance, attesting to a certain incompatibility between religious and secular space, and thus the vertical and horizontal schemas that typify them. A compelling study of such cases is given by Karsten Harries, who has selected works with a sensitivity for their depiction of the shifting balance between the vertical and horizontal, the divine and human. Such works, mute but vivid, give some glimpse of what it meant to emerge from a "closed world" and face an "infinite universe."

Let me begin with the background of the painting, and its significance, since this approximates space itself. In any figurative art, the space between things is read as pure space, or empty air. As realistic perspective emerged, the style of painting the background changed dramatically. Medieval skies had been rendered pure gold; they were gleaming, radiant and otherworldly. With Renaissance perspective, the background becomes a naturalistic blue sky, filled with light, weather, and atmosphere. This is not merely an aesthetic preference, as Harries explains, but a "metaphorical device." <sup>109</sup>Gold connotes "preciousness and immutability" and as a symbol it "gestures beyond this fleeting world towards timeless transcendence."<sup>110</sup> The field of gold becomes a space through which one moves from the material to the

<sup>&</sup>lt;sup>105</sup> Panofsky, 57.

<sup>&</sup>lt;sup>106</sup> Panofsky, 58.

<sup>&</sup>lt;sup>107</sup> Compare these orthogonally gridded floors to the radiating dynamic oval used in the Baroque. At Capitoline Hill, a radiating star seems both to expand and contract around the central statue. (See Norberg-Schultz, *Genus Loci*, 152). The grid lines converge around the subject, yet also begin to stretch this encircling space towards the horizontal axis. <sup>108</sup> Panofsky, 57.

<sup>&</sup>lt;sup>109</sup> Harries, The Ethics of Architecture, 107.

<sup>&</sup>lt;sup>110</sup> Harries, The Ethics of Architecture, 107.

immaterial world; it "transports the observer from this world into 'the True Light.'"<sup>111</sup> In keeping with the timeless immateriality of this golden space, figures within it are linear and stylized, lacking material weight and roundness.<sup>112</sup> With the rise of naturalist scenes the use of golden backgrounds would fade, as their very metaphysics underlying them became problematic."<sup>113</sup> With the rise of secular humanism came a turn towards naturalistic, three-dimensional space. The spiritual meaning of gold would clash with the mundane associations of perspectival and worldly scenes. This curious incompatibility remains evident in some awkwardly constructed works of art.



Lorenzetti: *Annunciation* (Italy, 1344) [Fig. 14] Incompatible symbols: naturalistic floor plane with unearthly sky.

of the horizontal floor seems in "open conflict with the flattening effect created by the gold ground."<sup>114</sup> Is unclear what sort of space is evoked: secular or sacred. The figures have an earthly solidity, Harries points out, one at odds with the ethereal flattened figures typical of earlier, more iconic and otherworldly renditions. In the second case, *The Conversion of St. Hubert*, the contrast between an otherworldly celestial realm and naturalistic ground plane is equally evident. A rolling hilly landscape receding into distant blue mountains would seem to demand a

Consider, for instance, the juxtaposition of a golden sky with a natural, perspectival ground plane. Harries offers two examples of this: Lorenzetti's *Annunciation* of 1344, and *The Conversion of St. Hubert* by an anonymous painter. In the first, the sky is shown as a flat golden plane while the ground is a perspectivally receding monochromatic tiled floor. The depth



*The Conversion of St. Hubert* (from the Workshop of the Master of the Life of the Virgin, 1485-90) [Fig. 15] Increasing naturalism of the horizontal plane.

<sup>&</sup>lt;sup>111</sup> Harries, The Ethics of Architecture, 108.

<sup>&</sup>lt;sup>112</sup> Harries, The Ethics of Architecture, 107.

<sup>&</sup>lt;sup>113</sup> Harries, Infinity and Perspective, 86.

<sup>&</sup>lt;sup>114</sup> Damisch, cited in Harries, Infinity and Perspective, 85

naturalistic sky, replete with light and shadow, weather and color, yet a golden veil hovers over all. The golden sky seems to be a nod to convention, at odds with the more mundane and terrestrial scene, realistically depicted. Its former symbolism seems increasingly lost and illegible in the movement to depict the human action, the here and now.

Finally, Harries offers a striking example, in *Rogier van der Weyden's St Luke's Sketching the Virgin*, of the new horizontal, open and perspectival human viewpoint emerging out of the vertical, enclosed medieval space. [The scene is, at one level, a portrait of the Virgin. More accurately, it is a scene of the virgin's portrait being drawn by St. Luke (the patron saint of painters). As viewers we are able to see not only Mary but also the artist painting her portrait; we are



Rogier van der Weyden's St Luke's Sketching the Virgin, (1435-40, Flanders). Open window and infinite views for the modern eye; golden heavens revealed as artifice. [Fig. 16]

thus entirely privy to the artifice. Harries reminds us that unlike St. Luke, the painting's actual viewers cannot have any direct sight of the virgin; hence the saint's line of direct vision contrasts to our own view from the side.<sup>115</sup>

From our lateral angle, the "golden sky" of her portrait is revealed to be a mere curtain. And when we look directly into the painting's 'real depth', we see—in place of the sacred golden sky, now flattened and present only from the side-an open window giving out onto an earthly horizon. The perspective of the scene pulls the eye across the dark and enclosed room and out into the bright, open landscape. The line of the viewer's gaze crosses the axis formed by painter and model, bursts out of their closed world, and continues outwards to land upon the distant, secular horizon. In this newly unfurling space, two townspeople look out onto the distance, unmistakably in vicarious alignment with the painting's viewer. The townspeople "have their backs to the sacred event," and instead turn "towards the world with its infinite variety" observes Harries, such that the secular and the holy figures "belong to different realms."<sup>116</sup> We as the viewers of the scene, witness to its history and its artifice, its theatre and its reality, are thus privy to the historical transition from one mode to another. Indisputable is that the secular and anthropocentric viewer has emerged from the enclosed, hierarchical religious space, and has come to gaze at the unlimited expanse of modern space."<sup>117</sup> Yet the

<sup>&</sup>lt;sup>115</sup> Harries, Infinity and Perspective, 90.

<sup>&</sup>lt;sup>116</sup> Harries, Infinity and Perspective, 90.

<sup>&</sup>lt;sup>117</sup> The art of naturalistic landscape painting would emerge as a discipline in itself, no longer merely a background to archetypical religious and mythological scenes. Ordinary particulars of daily life came to serve as legitimate artistic

symbolic traces of the divine, and the vertical world order, are not fully erased, nor will they be for some time. During the coming era of the Baroque, which is characterized by a "modern tension between a divine and a human order conceived as separate centers of power,"<sup>118</sup> we will see the dynamic between waning verticality and increasing horizontality continue in the three-dimensional sphere of reality.

## 6.6.3 Baroque Architecture: Shifting Centers and Infinite Axes

If perspective gave symbolic visual form to the new representation of space and the cosmos, Baroque architecture developed the same themes—the center, the axis to infinity, the horizontal plane-- in three dimensions. The center continued to function as a destination and as a place where an implicit axis mundi points to a transcendent domain. Yet it also became increasingly integrated into the unified, interlinked terrestrial plane, so that it had to be related to the horizontal dimension as well. The classic Baroque form was that of a center that literally radiates infinite axes so as to project its influence over a vast territory of systematically ordered space. "The religious, scientific, economic and political centers of the 17<sup>th</sup> century were focuses of radiating forces, which seen from the center itself, had no spatial limits; they had an open and dynamic character. Departing from a fixed point, they could be infinitely extended."<sup>119</sup>

The religious architecture of the early modern age kept its prior connection to the vertical and sought to reconcile it with the vertical axis. This tension between two competing orientations indeed contributed to the form and character of the Baroque: its dramatic ovals, its novel fusion of forms, its theatrical presentation of the divine and sense of self-awareness, the blurring between inside and outside, above and below. As Dupré observes, there is a certain duality within the Catholic Baroque, a duality of centers as well as directionality. The era was marked by a tension between divine powers and human ones, a "dialectical opposition between two centers," that elicited a powerful and novel creative response, and which Dupré casts in terms directionality. "This dual center—human and divine—distinguishes the Baroque world picture from the vertical one of the Middle Ages, in which reality descends from a single transcendent point, as well as from the unproblematically horizontal one of later modern culture, prefigured in some features of the Renaissance. The tension between the two centers conveys to the Baroque a "complex, restless, and dynamic quality," concludes Dupré.<sup>120</sup> The human center on earth (a microcosmos of nature and its shaping force) is

subjects. Dutch artists in particular began depicting scenes of actual villages and country estates, with realistically portrayals of local personages and landmarks. Their works were set in particular places and times, showing real human activities. This was a break from both religious art, with its reverent depictions of holy figures in distant paradise, as well as from the Renaissance affinity for mythological scenes set in the classical idealized landscapes.

Aelbert Cuyp (1620-91) was known for his accurate renderings of Dutch topography and the family-owned farmlands that featured large in the economy. His realistic scenes were populated by farm laborers tending their livestock and crops, alongside the local church. Van Ruidael (1628-82) also painted his city and its church, as well as the windmills reflecting the reclamation of the land from the sea. Vermeer abandoned biblical and historical themes for domestic interiors of middle class families often performing household tasks (Gardner, *Art through the Ages*, ed. 13, 564-5). <sup>118</sup> Dupré, 226.

<sup>&</sup>lt;sup>119</sup> Norberg-Schultz, Meaning in Western Architecture, 149.

<sup>&</sup>lt;sup>120</sup> Dupré, 237.

sustained by a divine center above (from whence the human ability to perfect nature descends).<sup>121</sup> "The vision of humans continuing God's creative act and thereby becoming God's representatives provided the main inspiration of the Catholic Baroque," according to Dupré.<sup>122</sup> In spatial terms, the relation of the two centers also entails the relation of expansion versus ascension, secular versus sacred, perhaps even the very demarcation between heaven and earth. Ultimately, this tension between God and Man would resolve in favor of an autonomous and self-determining humanity, and the vertical axis of the sacred will become the tool of worldly powers expanding to the symbolic horizon. The cloistered places of the pre-modern world would be gradually opened up and linked up to the endless plane of modern, homogeneous space. These tendencies are illustrated, I hope, by the following works—all of which are typical as well as iconic.

## a) The Baroque Church: Reconciliation of Vertical and Horizontal

In the Baroque church, the elongated oval emerges as a way of balancing a centralized vertical space with the increasingly dominant horizontal axis.<sup>123</sup> Traditional church architecture had tended to combine a longitudinal nave with a round, choir or dome, strongly centralized space, without fusing them; the path towards redemption and the abstract cosmic harmony of the dome belonging to different planes. With the Baroque, this clear separation becomes less so; the centralized space is more closely merged with the linear horizontal path. The merging of center and path comes in response, claims Norberg-Schultz, to a "new need for participation in an extended spatial system."<sup>124</sup> The oval, with its two foci and its major axis, combines the closed roundness of the circle with the dynamic, axial motion of the line. Famously used at San Carlo Quattro Fontaine (San Carlino), St. Peter's Square, and Sant'Andrea al Quirinale, inter alia, the oval in plan achieves a unity "of movement and concentration, of linearity and radiation."<sup>125</sup> The oval is moreover a striking form, lends itself to the dramatic visual imagery that the church found useful for persuasion to the faith.

The Baroque church becomes more closely interwoven with its environment, with an interpenetrating, "complementary-inside outside" relationship.<sup>126</sup> The fixed spatial proportions and self-contained volumes of the Renaissance are given more movement and openness: San Carlino's walls are characteristically curved and undulated, as if pushed from inside and out, its dome is dramatically lit from outside by half-hidden windows. The ornate curving façade serves as a prominent "gateway" to the interior, while also making the building part of the street and plaza. The typically Baroque theme of infinite expansion from a center is also prominent in church interiors.

<sup>&</sup>lt;sup>121</sup> "At the center of it stands the person, confident in the ability to give form and structure to a nascent world. But and here lies its religious significance—that center remains vertically linked to a transcendent source from which, via a descending scale of mediating bodies, the human creator draws his power (Dupré, 237). <sup>122</sup> Dupré , 226.

<sup>&</sup>lt;sup>123</sup> Norberg-Schultz, Baroque Architecture, (New York: Electa/Rizzoli, 1886), 13.

<sup>&</sup>lt;sup>124</sup> Norberg-Schultz, Baroque Architecture, 14.

<sup>&</sup>lt;sup>125</sup> Norberg-Schultz, Baroque Architecture, 68.

<sup>&</sup>lt;sup>126</sup> Norberg-Schultz, Baroque Architecture, 141.

As Wölfflin observed, the Baroque interior,

"revealed a completely new conception of space directed towards infinity. "Architectural elements, sculpture and painting all combine to conjure up theatrical spaces that hover at the boundaries of real space, extending them. The interior, which in the Renaissance had been a "structurally closed entity," was provided with the illusion of infinite views, both around and above, according to Wolfflin. "The enclosing shell of the building hardly counted: in all directions one's gaze is drawn into infinity." The flat ceiling that had "calmly closed off space" was replaced with a barrel vault which seemed open to the very heavens; we see "clouds stream down with choirs of angels and all the glory of heaven; our eyes and minds are lost in immeasurable space."<sup>127</sup>



Borromini's San Carlo Quattro Fontane (Rome, 1646). Fluid boundary between interior and exterior. [Fig. 17]

This celestial infinite space thus seems to dissolve the boundary between heaven and earth; it comes down from an infinite distance and cascades through to the interior of the church, where it draws the observer into a vision of a higher reality. This experience of looking into infinity, which so fascinated the Baroque era, extends the viewer's gaze into a reality far removed from his own. Yet one is connected to this sublime distance through the systematic unity of space itself. This will prove equally true of the horizontal direction in grand urban plazas.



G. da Vignola and G. della Porta, *Il Gesu* (Rome, 1580) Fluid boundary between below and above. [Fig. 18]

<sup>127</sup> Heinrich Wolfflin, Renaissance and Baroque, trans. Kathrin Simon (Ithaca, N.Y.: Cornell University Press, 1966), 64-65.

### b) Baroque Urban Form: Expansion and Interlinking of Centers

Like perspective, the built environment of the modern era reflects the new spatial paradigm of modernity. Via dramatic centralized forms and radiating axes, monumental works of architectural and urbanism visually and literally projected their presence and authority over vast territories. Piazza San Pietro in Rome and the Palace of Versailles— absolute centers of church and state, respectively, exemplified these traits. Both saw architecture as a way to persuade their adherents of their legitimacy and project their influence.<sup>128</sup> Centralized and symmetrical, these institutions display the literal reach of their power via the infinite axes that radiate outwards to the horizon and beyond— as if the perspectival vanishing points were realized in actual space. Such a display is all the more effective since no point on the terrestrial plane escapes this radially extending geometry. The entire ground plane has become unified, systematically ordered, and connected. "The world was considered to have a geometrically ordered extension as its basic property," observes Norberg-Schultz.<sup>129</sup>

Like the Baroque church, St Peter's square brings the vertical divine axis into relation with the horizontal, receiving all directions within the open arms of the vast elliptical colonnade, a place both defined yet permeable on all sides to the city itself. By contrast, the horizontal alone dominates at Versailles: the rigorous formal patterning of the ground plane and extended axes all project the power of the sun king as it spreads over his earthly dominion. A waning verticality and an increasing horizontality emerges, as the secular power of the state increased over that of the church.

## c) Piazza San Pietro: the Convergence of All Directions

Designed by Bernini in 1685-7, Piazza San Pietro was designed to express the renewed vigor of the counterreformed Catholic Church, projecting its glory and mission of expansion. The great piazza at the entrance to St Peter's Basilica consists of a monumental trapezoidal forecourt that flows into the vast, transverse oval formed by the two great hemispheric colonnades. These deep, open colonnades reach out, it is often claimed, like a pair of arms seeking to encircle believers as well as unbelievers, forming a vast open forum for receiving all humanity. From within the square, one is struck by the monumental paths radiating outwards in all directions, as if to show the far-reaching power and influence of the Roman Catholic Church.

The oval piazza, too, shows the typical Baroque merging of an enclosed space with a wider world. It is "simultaneously closed and open" according to Norberg-Schultz: the sense of closure is due to its strongly defined form, which is surrounded by a massive colonnade, while the openness is due to its expansion along the transverse axis along

<sup>&</sup>lt;sup>128</sup> Baroque architecture is essentially a reflection of the great systems of the seventeenth and eighteenth centuries, especially the Roman Catholic Church and the political system of the centralized French state." (Norberg-Schultz, *Baroque Architecture*, 149)

<sup>&</sup>lt;sup>129</sup> Of Baroque era Paris, Norberg-Schultz writes, "the whole landscape has been transformed into a network of centralized systems which, ideally, have an infinite extension....there is hardly any historical epoch which more evidently manifests a correspondence between the form of life and the architectural environment. This correspondence is easy to understand when we remember that the world was considered to have a geometrically ordered extension as its basic property" (Norberg-Schultz, *Baroque Architecture*, 10).

with the transparency of the colonnade.<sup>130</sup> This same dynamic of openness and containment is reiterated on the ground plane, where the tiled pattern carries radial lines from the oval's periphery to its center. Converging on the vertical obelisk at the center, the pattern reinforces the square as a point of arrival as well as departure.

At the piazza's center stands the obelisk brought to Rome in 37 AD, which is now considered the central point of all Christendom. Here all roads converge, at the very axis that runs through St. Peter's Church. Norberg-Schultz notes how the horizontal routes are gathered together, then elevated upwards: "The obelisk has an important function as the node where all the directions are unified and connected with the longitudinal axis which leads to the church. An ideal synthesis of concentration and longitudinal direction on a goal is thereby created. The theme is repeated inside the church, where the movement finds its final motivation in the vertical axis of the heavenly dome."<sup>131</sup>

### d) Versailles: Priority to the Horizontal

Versailles, like St. Peter's, also focuses and projects a centralized power. The palace and garden complex for Louis XIV, the "Sun King," dominates and defines the entire surrounding region. From the residence, a "burst of radiating axes" stretches outwards in all directions, to the horizon and beyond.<sup>132</sup> Though he claimed to rule by divine authority, the vertical axis is foregone in favor of a stringent horizontality, as if to stress the monarch's absolute and unquestioned power over his earthly kingdom. From this perspective, the sun is a fitting emblem for a worldly power with transcendent authority, moving as it does between heaven and earth

The layout is overwhelmingly geometric, with all perspectives and avenues converging on the palace and figuring into the vast formal gardens around it. All elements of the gardens-the vast horizontal parterres of lawn and water, canals and fountains, forests and groves, fall into place along the major axes, long avenues and straight canals, and these in turn extend further and ultimately become the major arteries of the town and country in all directions. The design is highly formal and cultivated in the center, shifting towards more natural elements at the edges: it transitions from sculpted greenery to flat planes of lawn and vast pools to artificial and then wild forests. This gradual transition means no clear separation exists between the garden and beyond; consequently, the scale of the garden is "at the level of nature at large," notes architectural historian Spiro Kostof."<sup>133</sup> The entire terrestrial plane is structured so as to reinforce the imposing authority of the center, the seat of political authority. In compositional terms, it is strictly organized, centralized and dynamic, while also radiating outward indefinitely, stretching to the horizon. Kostof describes the key traits of this era were an "explosive scale and rational method of planning" along with a "subordination of wide tracts of nature under directional systems that open up the infinite dimension."<sup>134</sup> The radiating axes of Baroque planning, which served to subsume and link public space and unite the national territory, seem to instantiate the modern notion of space

<sup>&</sup>lt;sup>130</sup> Norberg-Schultz, Baroque Architecture, 34.

<sup>&</sup>lt;sup>131</sup> Norberg-Schultz, Baroque Architecture, 30.

<sup>&</sup>lt;sup>132</sup> Spiro Kostof, "Absolutism and Bourgeoisie: European Architecture, 1600-1750," in *A History of Architecture: Setttings and Rituals,* (New York/Oxford: Oxford University Press, 1985.), 528. One French bishop wrote called for the majesty of the royal palace to "blaze out, for all to see, the splendid grandeur of the royal power, so that, as a stroke of lightning, it sheds light in every direction" (Bousseuet, cited in Kostof, 527).

<sup>&</sup>lt;sup>133</sup> Kostof, 536.

<sup>&</sup>lt;sup>134</sup> Kostof, 528.

as an empty, unlimited field. For Kostof, the grounds at Versailles illustrate the modern redefinition of space as "infinite and unfettered by the bodies that occupy it."<sup>135</sup> Now an empty field, space is defined not by place, but by geometry and movement. Movement through space, i.e., the circulation of people and goods, now takes priority in human settlements.

Nowhere is this principle of movement better exemplified than in Haussmann's Paris, a vast urban restructuring of the city's circulation and form. Reforms along these lines had actually been discussed since the eighteenth century, but the plan was not executed until the mid-nineteenth. As a remedy for crowding and poor sanitation, and also to better accommodate the dominant commercial class, major improvements to circulation were made, along with amendments to lighting, water supply, sewers, and parks. The new avenues sliced through dense neighborhoods, integrating the disparate quarters of Paris. Haussmann made the city "a unified organism" by imposing an "extensive and interlinked" circulation system.<sup>136</sup> The new tree lined boulevards came together at various new urban squares, which Kostof reads as "nodes of monumental character that corresponded to a readable scheme of real and symbolic power."<sup>137</sup>

French urban planning became the model for other capitals seeking to organize their growing both the imposing majesty and comprehensive efficiency it promised, for instance, Vienna, Rome, and Berlin. Even the capital of the new world, Washington DC, was laid out by a French Baroque planner, laid out according to various key meridians, one of which was to run through the house of the president and serve as the origin point (i.e., "0,0") from which all other roads and distances in the US were to be gauged.<sup>138</sup> In the westward expansion of the new world, the geometric order covered the landscape even before the inhabitants.

It should be clear, then, that the space of Baroque architecture and planning shared various features with the space of perspective. The latter is a symbolic depiction of modern space, empty and boundless, the same in all directions. Like Baroque planning, perspective is constructed for a central vantage point, from which panoramic, unified views are available. Both treat all space as one endless expanse that falls under its oversight and control. Perspective had modelled visual space by imitating lines of sight, which converge on a viewing subject, at one end, and extend to an infinite horizon at the other. Similarly, Baroque space featured vast axes that converge on a central space and reciprocally link it to distant horizons. The Baroque square is dynamic, expansive center, fixed but open, both destination and path at once. Just the axis mundi served as the existential anchor for a given world by linking different cosmic realms to a central vertical, the Baroque square or palace served to gather and anchor space on the horizontal plane, bringing far flung realms under the sway of a central worldly institution.

For all their ornate glory and careful articulation, there is something unnerving about the grand axes of the Baroque, for they stretch on indefinitely, and perfectly straight, as if the need for distance took priority over any particular

<sup>135</sup> Kostof, 537.

<sup>136</sup> Kostof, 645.

<sup>&</sup>lt;sup>137</sup> Kostof, 646.

<sup>&</sup>lt;sup>138</sup> While the White House Meridian did not remain a primary reference, the Old Naval Meridian established in DC in 1850 did become the line on which the longitudinal borders of most western states are based.

destination. As Maleuvre wondered, "Why does the Baroque mind send so much time postponing? Why labyrinths, curves and detours?" The mood which underlines these "patterns of sinuosity, the elaborate pathways going nowhere", he muses, may be a "common existential terror: the fear of finding there is nothing to find at the end."<sup>139</sup>

### 6.7 Contemporary Horizontality: a Single Interconnected Framework

Early modern architecture and planning seems, in retrospect, to have initiated the tendencies that would come to dominate our own age. The vertical axis mundi is slowly turned on its side. Motion along the horizontal surface, in the actual world, takes priority over the imagined spiritual transcendence of an earlier era. The interconnection of place and extension of systematic networks continued, with the rise of railroads, then highways and air corridors. The axes and avenues of the Baroque era have ultimately evolved into functional transit corridors. The far-reaching route that extends unendingly, towards the point of infinity on the horizon, comes to replace the figurative transcendence of the axis mundi. The radiating horizontal axes prevalent in baroque architecture and planning are a symbolic depiction of the horizontal expansion of power, of the desire for an untrammeled scope of influence. These horizontal linkages are even more pronounced in our own age, which stresses ever faster forms of interconnection and minimizing of distances--so that all of us seem to be simultaneously everywhere and nowhere. expansion.

If earlier eras sought to broaden their horizons, via exploration and expansion, our later epoch seems to aim at the merging all horizons into one. Distance has been minimized by ever faster means of transport, in various modes, that never ceases. It has been reduced, too, by instant communication that conveys our messages, if not our virtual presence, at the speed of light. We read newspapers from all over the globe, and watch events unfold in places whose locations remain abstract, or merely visual. The horizons of our particular place and time have become quaint particularities, their spaces, times, and events now indexed to a larger, more universal global standard. One might say that our perceived, local horizons have been expanded, thanks to technology and systemization, and ultimately merged into one interlinked and continuous present, a single global space, with no horizon, or rather, whose horizon is everywhere and nowhere.<sup>140</sup>

## 6.8 The Horizontal: Conclusion

If the traditional cosmos was oriented along the vertical axis, modern space is aligned to the horizontal. Modernity ultimately rendered the space of the cosmos secular and homogeneous, and the terrestrial realm grew increasingly interconnected and transfigured by human activity. The divinely ordained order yielded to a modern one in which we are free, secular, and unrestrained by traditional hierarchies. The new order was accompanied, however, by a certain isolation and disorientation, which was countered by centering the humanity itself. Humans individuals became the new locus of knowledge, newly emboldened to question the old order and shape their own destinies. The earthly plane became the locus of activity and attention; the final aim of life was not longer to ascend to some eternal realm beyond, but rather to improve what was present and available, maximizing health and happiness in the here and now.

A new anthropocentrism emerged in modernity-almost as if to compensate for the loss of the stable geocentric

<sup>&</sup>lt;sup>139</sup> Maleuvre, 208.

<sup>&</sup>lt;sup>140</sup> The pressure to homogenize and interconnect disparate times and places has triggered a backlash, to be sure, with its own benefits and liabilities, but these lie well beyond our scope.

order. No longer the symbolic fixed center of the limited cosmos, western culture had to find new ways of existentially orienting itself to vast reaches of space. Never again would philosophers forget that our viewpoint and reference frame greatly affect our perception; henceforth the subject's contributions to reality would be factored in, and the world understood as being represented for a given subject in a given place. The centrality of the individual viewpoint in relation to modern space is epitomized in perspectival representation--the subjective representation of objective space.

The axis mundi that had connected the terrestrial realm to some infinitely perfect transcendent power gradually lost its context and thus its significance; its place was taken by the infinite axis running from the center to periphery, vanishing into the horizon. Once limited spheres above, the skies have become empty space whose gridlines stretch forever; this same infinity is symbolically brought down to the ground plane, via perspective, where it comprises the vanishing point, the point of infinite depth.

Today, much of the "horizontal" nature of our world is due to the creation of interlinkages across the globe. These horizontal linkages are even more pronounced in our own age, which stresses on ever faster forms of interconnection and minimizing of distances--so that all of us seem to be simultaneously everywhere and nowhere.

## 7.0 CONCLUDING REMARKS

The lack of attention to the subjective character of our lived space has somewhat eroded our awareness of the dimensions and their significance. The dominant notion of space as forged by the western philosophical and scientific tradition, has served the scientific tradition well, but it obscures and is in tension with the phenomenology of space and our lived experience of the dimensions. The prevailing ideas of space, as homogenous, metric, incorporeal and independent of all bodies, emerged in the late middle ages and culminated in Newton and Kant. It deliberately excluded the body and its experience. Moreover, the notion of the modern subject neglects the very ground from which egocentricity emerges. When we return to our pre-objective experience of space, we uncover the reciprocal relations between body and world in which each dimension literally comes to life again. We might therefore ask whether the egocentricity of the oriented subject is indeed inescapable and primary. Let us recall that orientation is always a relation with two poles, and that our attention, culture, habits and values all act together to influence how we grasp our relation to the otherness of the world.

The emphasis on the egocentricity of the modern subject, so evident in the Western philosophical tradition, obscures more original connections between the body and the world and sets the thinking subject over and against the natural physical world. For Heidegger, the Western paradigm of modern subjectivity clearly tends to objectify space while obscuring other modes of spatiality. In *Art and Space*, he writes,

"Yet can the physically-technologically projected space, however it may be determined henceforth, be held as the sole genuine space? Compared with it, are all other articulated spaces, artistic space, the space of every day practice and commerce, only subjectively conditioned prefigurations and modifications of one objective cosmic space? But how can this be so, if the objectivity of the objective world-space remains, without question, the correlate of the subjectivity of a consciousness which was foreign to the epochs which preceded modern European times?<sup>141</sup>

In short, we should be careful of the modern tendency to objectify space at the expense of the body, with its preobjective spatiality, and at the expense of the earth itself—a point I will return to below.

The modern paradigm of space--infinite, incorporeal and prior to things—has influenced our lived experience of the world, often reduced to quantities, amenable to possession and development, designed for human expansion. The abstract, mathematical representation of space, and the technologies that enable us to treat it as an empty vessel or resource, has also left its mark upon the axial dimensions. The vertical is increasingly attainable through technological advances: ever-taller buildings are erected (reiterations of the same floor plan that seem to multiply the horizontal plane upward), proliferating satellites provide a God's eye view of every corner of the earth and threaten to obscure the stars, and even flight has grown crushingly mundane. On the horizontal plane earth's surface, every point on the globe has been assigned a place in the coordinate system, while the once-critical skill of personal navigation and orientation has

<sup>&</sup>lt;sup>141</sup> Heidegger, Art and Space, trans. C. Seibert, (The Hague: Nijhoff, 1973).

been taken over by phones and geotracking devices. This outsourcing of a basic human ability means that city planners can dispense with the clarity and order that might help us situate ourselves; indeed contemporary urban road networks have become so complex that computer aid is nearly indispensable. Finally, the dimension depth, which Merleau-Ponty called the most existential of the dimensions, can now be simulated by stereo cameras, equipped with dual lenses and advanced image processing, that generate visual three-dimensional maps in real time. Through these various space mastering technologies and others, the scope of human agency now extends further than ever before. By comparison, to dwell on the subjective experience of space seems quaint, almost anachronistic.

What, then, is the point of caring about bodily orientation in an age where technology is more adept and available? Why have I made an issue of it? For two complementary sets of reasons: first, as long as we are embodied, the sense of orientation is connected to our being itself, an intrinsic capacity of the embodied subject, linked to our very sense of identity and memory. It is also a core part of what it means to feel at home in the world. Second, personal orientation is linked to a sense of agency, of freedom, of belonging to a larger context. It situates the subjective experience, with all its private richness, to larger context, natural, social even cosmic order, and thus expands it.<sup>142</sup> As the zero point of orientation, the embodied subject has somehow to grasp the sense of what lies all around it.

Orientation, though it has its roots in biology, is more than a question of survival and physical needs; it concerns how the latter are woven into a world of meaning and inseparable from it, and also pertains to our more spiritual and rational modes of being. Bodily orientation is closely tied to memory, as we saw in Proust's recounting of worlds that shifted with him in his sleep, and moreover to a sense of home. This is not surprising, since orientation entails keeping track of what is no longer present, not immediate. It concerns the very existential settings in which one's life unfolds. Orientation touches upon our primitive need for a place to call home, as well as the equally fundamental need to explore beyond what is familiar and to gain a larger view of the whole. It is always charged with value or sense; indeed it is this very being-imbued-with-sense that constitutes oriented space rather than empty, homogeneous space, lacking interest or significance. Orientation begins with the sensible realm, but insofar as it is spatial also pertains to how we relate to the more abstract and geometrical manifestations of space. The latter resists orientation; our minds can represent this mathematical, abstract, infinite space and impose it onto the natural world in which we live, but as incarnated beings we remain rooted in the richness of the sensory world.

We began by inquiring into the ways in which an egocentrically oriented subject could forge ties to the world without the intermediary of objective space. We saw how a prior gearing to the world, via the body's differentiated sensibilities along the three disparate axes, orients us both as individuals and through our shared sensibility and

<sup>&</sup>lt;sup>142</sup> For just like allocentric navigation implies a greater understanding of the environment than the purely linear map followed by the egocentric subject,(and a better ability to take any path home, not just the one) so too does a sense of one's personal orientation with respect to the larger order change one's grasp of the possibilities and obstacles.

intersubjective traditions and norms. In particular, we saw the emergence of earth as the ultimate frame of reference, and questioned the primacy of egocentricity.

## 7.1 The Egocentric Subject and Beyond

The egocentric orientation of the subject, though initiated by Husserl, was later given various degrees of nuance both by himself primarily Merleau-Ponty.<sup>143</sup>. The latter's analysis of lived space brought out the degree to which our very mode of spatial existence is tied to the earth, as are the three axes present in both the body and world. Merleau-Ponty's account of lived space is attuned to a full sense of the dimensions that are inherent in both body and in nature, and to all of their emotional, mythical, and existential resonance. He reminded us of a domain of experience that *Ideas 2* had left unexplored in its abrupt move from solipsistic egocentrism to intersubjective objectivity.

Merleau-Ponty shows how the body's fundamental egocentricity is always already oriented to the space of the world.<sup>144</sup> We are always connected, extended, involved, situated. Our shared embodiment, with each other, with things of the world, and with the structure of the world itself, gives the dimensions their continued significance. The alignment

It seems Husserl is getting at the sense of the configured world as a whole, constituted by our movements through it over time, with a certain durability, being composed of both change and non-change; a world that extends "as far as my retention (146). My very movement in this world becomes a possible means, for Husserl, of constituting the latter's objectivity: "I wonder: does the homogeneous objective world, the homogeneous spatio-temporality, in contrast to which the oriented primordial world is but mere appearance, first constitute itself through the coordinated play of selfpropelled walking and being driven, being mechanically moved?" (152). He then speculates that moving around constitutes a fixed system of sites, grasped as relatively unchanging as I move about them in different ways, (the very essence of allocentric orientation); he furthermore notes that through my self-propelled walking I can "bring every thing and every object closer;" moreover I am able to "approach every site and be there, and thus my flesh is also thing, a res extensa, etc., that is mobile) (153). Finally, this walking under my own powers brings me near and far to things, so that I can go anywhere, and approach any external thing. Husserl concludes, "Is space not already thereby constituted as a system of sites (and not only as an orientation system, an orientation space)? And is my not my flesh already thereby constituted as an object like any other external object, as containing and occupying a part of space, as having a site in space, and being moved, spatially moved, like any other object? (153, emphasis added). In short, recognition and orientation are both important to the grasp of space as transcendent to one's own subjective viewpoint; moreover, in this later and lesser known essay Husserl seems to conclude that one's own autokinesis is sufficient for a grasp of objective space.

<sup>144</sup> And this world which is so deeply resonant within our body's own spatiality leads to a sharing of this world space with others (as Husserl too ultimately concludes).

<sup>&</sup>lt;sup>143</sup> Once again, in this regard, see Husserl's *Crisis of European Sciences and Transcendental Phenomenology* along with his essays "The Foundations of the Origin of the Spatiality of Nature," and "The World of the Living Present." The author of *Ideas 2* may have stressed the inability of a solipsistic consciousness to ever gain awareness of its own body as a figure on a ground of space, seen from without; unaware of its vision as perspectival (until this viewpoint is linked to similar others); but in "The World of the Living Present" he revises this position. He clearly explains how the world of stable spatial experience, "a unitary, objective world" is connected, "indeed equivalent" to the possibility of encountering the same objects in their same spatiotemporal positions in different times. See his "World of the Living Present" in *Husserl at the Limits of Phenomenology*, eds. L. Lawlor & B. Bergo, (Evanston: Northwestern University Press, 2002), 141-2. This presupposes an ability to recognizing individual entities, and thus draws on memory and familiarity, which in turn involves grasping the overall configuration of things-Husserl's full argument is too detailed to summarize here; what is relevant here is his notion of the sense of the full configuration of the world. He speaks of a flow of experience that is "constituted as a unity....a continuous persisting 'spatial field' of unchanged things." And then, "the whole' of things that are experienced simultaneously in the living present is not a simple being-experienced-together,' but the unity of a 'whole' connected spatiotemporally, or a 'whole' connected configuratively within spatiotemporality." (144).

to levels so precisely described by Merleau-Ponty as a "gearing to the world" and a "taking possession of space" is present not only for vertical, but also for horizontality and depth. "Depth and size come to things in virtue of their being situated in relation to a level of distances and sizes"....it thus has to do with "a certain 'scope' of our gestures, a certain 'hold' of the phenomenal body on its surroundings." <sup>145</sup>

Yet Husserl later posited the earth as the basis-body of humanity, neither in motion or rest itself but as the basis for both, and as the home and origin of humanity as a whole: a radical, poetic, and coherent idea that greatly influenced Merleau-Ponty These later reconsiderations have implications both for human nature and humanity's relation to nature: they ask us to recall the primacy of the earth and the natural world.

## 7.2 From Egocentricity towards Geocentricity

In determining how the sensed dimensions relate to the intersubjective and abstract ones, the earth emerged as a crucial ground and connecting element. It is the ground of all spatiality and motion, both for individual bodies and for the whole human species, and in Husserl's words it is the "ark of humanity" from which we measure not only motion and rest, but also our own historical origins. It enables both movement and the very sense of movement, as well as direction, balance and weight. From it, each of the three dimensions derives its inexhaustible significance. The earth's surface is a fragile miracle on which we all depend, the ultimate other pole to which I orient. It is the anchor for each lived body," the ultimate phenomenological ground, the "ark" not only for all humanity, but for all beings made flesh (Indeed, like the biblical ark, it carries all creatures of the world together). Given the primacy of the earth to all aspects of our spatiality, and to the profound significance of the dimensions and to our orientation in space, transforming the anthropocentrism of modernity to a new geocentrism, more enlightened about humanity's place in the natural and dependence on it, one that sets the earth at the center once more, that inverts the old anthropocentric teleology, and recognizes and nurtures the symbiotic relation we have with the earth.

The earth and the body are intimately related, as Husserl first realized. In his "Origins of the Spatiality of Nature," he compares the body, as the egocentric "nullpunkt" of orientation, to the assumed (pre-Copernican) geocentricity of the earth. Both my body and the earth are always "here," a "basis-body" that cannot be seen from an external viewpoint, thus can never be grasped externally as a whole. Phenomenologically the earth is always "here" and unmoving, like one's body; and it remains the "basis body" for all humankind. Merleau-Ponty writes, "The earth *Boden* can change its objective location but as *Boden* it is always invariable. We exchange *Boden* just as in *Einfuhlung* we exchange our bodies; nevertheless my body is for me the primordial body, of a '*seinsinn*' which is not the relativity"<sup>146</sup>

The earth might well serve as a renewed point of reference for our orientation, a center beyond that of the embodied subject's perpetual "here," a phenomenologically absolute foothold for our post-Copernican and now

<sup>145</sup> PhP, 310-11.

<sup>&</sup>lt;sup>146</sup> Merleau-Ponty, "Course Notes," trans. L. Lawlor, in Husserl at the Limits of Phenomenology, eds. L. Lawlor & B. Bergo. (Evanston: Northwestern University Press, 2002), 72.

relativistic age. To speak of a natural symbolism of the horizontal and vertical is possible because of this earthbound physiology and our earthbound history.<sup>147</sup> At every level-personal, cultural, biological, we are sensible to their inexhaustible expressiveness, as is evident in our imaginative and artistic expressions, our religions and myths, our defenses, dwellings, and boundaries. The importance of the spatial dimensions and orientedness to our very sense of self and our existential stability has been made clear, too, by various inquiries into the mind/body relation, emerging from phenomenology, psychology, and increasingly from neuroscience.

#### 7.3 Verticality

Our relation to the vertical is one of being anchored and balanced, oriented by visual and haptic evidence to the implied direction of gravity. Since we are always reckoning with weight and balance, rising and falling have emotional force for us. The world's vertical axis represents transcendence, since the skies the ream least accessible to us terrestrials. To conquer heights is heroic, to occupy the heavens once seemed divine. Below us lies the subterranean realm of what is buried and invisible, yet from this same ground comes a sense of regeneration, also of rootedness and stability. The word "substance", the fundamental constituent of reality, traces back to Latin verb *sub-stare*, from Greek *hypokeimenon*, thus that which underlying what is upstanding. The earth is what enables our standing, but also our moving about, our incarnated spatiality as such. It is the ultimate foundation, an unmoving ark in a sea of empty space.

In the social realm, the vertical has often manifested as a symbolic center. Visible from all points around, prominent vertical elements provide a central focus to a city or whole region, gathering the inhabitants around a common point, orienting them both practically and symbolically.

The religious symbolism of the vertical remains strongly legible thanks to tradition and the nature of the celestial domain itself. Yet the vertical is more recently becoming shaped by secular and national interests, for the highest structure in a place often instantiates the priorities of the community, be they religious, commercial, political, etc. Commercial high rises and private residence towers also shape the skyline; along with communications towers, stadiums and airports. Satellites begin to distort the eternal stillness of the stars. The vertical risks becoming yoked exclusively to human ends and co-opted into our horizontal expansion. Yet the non-utilitarian expressiveness of verticality remains, if we pause to discern its more subdued forms: a tree that gives shelter and shade to a dwelling, or an ornamental transom above a door that bestows grandness upon the moment of passage. Light that comes from above, in a museum or library, makes a kind of ritual out of the act of vision itself. The point is this: the vertical remains powerful for us as long as we hold it above as an ideal, something to look up to, and it begins to lose its character as soon as we try to occupy those places ourselves, like Icarus. Being drawn upwards from within the world is entirely different than setting oneself above it. Only in the former case do we begin to transcend ourselves.

<sup>&</sup>lt;sup>147</sup> Piaget spoke of the vertical and horizontal axes as a "natural reference system" while Karsten Harries finds a "natural symbolism" in them. Louis Dupré characterized the medieval cosmos as vertical in contrast to a more modern humanism that is primarily horizontal.

#### 7.4 Horizontality

The bilateral axis is crucial to our orientation on the earth's surface: it enables me to sense how I am aligned with the things on the ground, with things all around me. Without this alignment, usually unconscious, we are as lost and disoriented. For instance, astronauts bereft of a ground plane often wake up disoriented; some experience a kind of spinning of their own personal frame of reference, initially falsely aligned with the surroundings, to suit the actual external situation, as their bodies realign their personal frame of reference with a world-centered one. Proust too described ta similar feeling of finding, losing, and re-finding one's alignment to some remembered setting, during sleep. He moreover captured the vivid link between orientation and memory: merely turning over in fitful sleep, like the longforgotten madeleine- was enough to provoke the resurgence of a past world. This sense of being rightly aligned, and of being aligned with some place at all, some world, is tied to our lateral sense. Grasping my relation to a map or mentally represented space is like having the view from above, already it is more than egocentric; it helps me see my place in the whole. If our vertical misalignment comes with the sense of being of balance, then our horizontal misalignment comes with being unclear how the world is laid out around us, or indeed where we are at all.

Regarding the horizontal at the cosmic level, we saw a shift from a vertical to horizontal world picture that was paralleled by a reconfiguration of the natural world, the terrestrial plane, in accordance with human aims. The finite geocentric cosmos, hierarchical and divinely ordered, gave way to a boundless centerless universe, with the human subject figuratively at its center. That we now witness permanent changes to the material composition and biodiversity to the natural world justifies the reference to our own geological age as the Anthropocene. A humanity disinclined to set limits on itself has endangered the ark of humanity and every creature on it, as well as those which soar above.

Rethinking orientation, and egocentricity, means rethinking our relation to the earth and the natural world, and our place within it and as part of it. I have suggested throughout that our original egocentricity manifests in different ways across various historical eras and cultural spatial mores. Positioning oneself with respect to some external reference, even temporarily, may well provide us with a different relation to space and the world; certainly allocentric orientation diminishes the subject's sense of centrality to space just as perspective reinforces it. Perhaps a different description of our own orientation, along with a questioning of our egocentricity and putting it into context, would awaken us to the possibility of other, less egocentric, modes of spatial existence. Modes of spatial experience that foreground the ego and its centricity to a lesser degree include the attuned, expressive modes of behavior, and allocentric modes of orientation that rely on external, natural references.

Imagine, for instance, what it would mean to orient differently in space, relying on unchanging features of the landscape such as the direction north, or the position of the moon, or a given mountain. This kind of *allocentric* orientation entails keeping track (consciously or subconsciously) of another location with the same constancy as we westerners feel our own sense of right and left. In Chapter Four, we saw certain non-western societies that orient by
means of natural features (a mountain slope or river basin) or cardinal directions (based on solar paths). These allocentric habits are reflected in their language and verbs of motion, as well as in their highly developed orientating skills. Those who orient by cardinal directions are more aware of the sun/moon, the changing light, the movements of the stars, the slope of the ground...and also the wind, the direction of the rivers, etc.

If I am oriented to some external reference, that reference transcends all immediacy and becomes part of the structure of my world. Such a mode of orienting might, I would like to suggest, somewhat dilute the sense of egocentricity. This already takes place to some extent when I reflect on my relation to the three axes (still relative to my body) and how they are incarnated external to me and interrelated with my own: the sense of depth mitigates my egocentricity through my imagination of experiencing other viewpoints; my sense of balance and weight sets me against the earth's stability; my sense of laterality puts me in touch with the horizontal plane by making me ask where way I am turned, and which way is north or south, towards or away from home, etc. We might go further, and lessen our primary egocentricity by tuning into other states: becoming sensitized to allocentricity, to attuned space, to letting things "look back at us" are states that can be cultivated, and perhaps made into a "second nature" as Aristotle might say, that lessens the sense of being egocentric.

## 7.5 Depth

Depth, I suggested, can be examined as a primarily visual mechanism, on the one hand, or as a mode of perception involving the embodied subject, moving in space and time and motivated by the content of appearances themselves, on the other. The first, associated with modern thought, lent itself to objectification; the second, characteristic of the phenomenological description, shows that there is more to depth, for depth involves the mobility of the body and the conscious integration of visible and invisible aspects of what is seen. Depth, I suggested, comes with seeing that there is more to see, yet not being able to see it fully (for it is the invisible correlate to the visible volumes that we see, the hidden sides and spaces between things). We experience depth in the landscape, which involves exploration, immersion, discovery. Movement and depth go together, for our movements are motivated by the way that things appearances unfold; we move in such a way as elicit the coalescence of appearances into a thing; like notes must be played in a certain order to create a melody.

Depth is motivated by wanting to see more, from over there. I am drawn forth to move there, or imagine already what might it like to be there? Things speak to us, and invite us to explore their fuller manifestations, as Husserl described. The limits of the visible serve as the outline, the frame, of the invisible. For instance, the horizon we see frames the infinite depth beyond it; Depth is felt as a space, but one we do not (or not yet, or not anymore) occupy or see.

Depth is due to my being incarnated as flesh, for it involves my sense of things near and far, in relation to myself. But this being amid things is not the same as egocentricity: rather, *it is already a way out of egocentricity*. When I see another place, with its own viewpoint on the world, I imagine moving here and seeing my world from those places. I project the movement that would put me there, already beginning to transpose my viewpoint, but always only partially. Merleau-Ponty spoke of things looking back at me: what can this mean, if it is not a step towards radical empathy? And empathy, as we know, is right at the border of the intersubjective constitution of objective space. Yet total empathy is never possible, nor is it possible to leave subjective space behind; for I can never uproot or detach myself from my own embodied, enmeshed, aligned position.<sup>148</sup>

Depth has to do with, I submit, my ability to move my frame of reference beyond myself, but always imagining it nonetheless. It drives me onwards, over there. What is the view from there, who am I from there? Who was I back then? Petrarch's view over the countryside, taking in his viewpoints far and near, helped him chart the trajectory of his life. Depth in the spatial sense calls up our past and future selves just as memory might, since it is the awareness of a difference between my here and now, and my there and then, Depth in the broader sense, the prior unity of all dimensions, evokes possible other standpoints I might take, that I might have taken.

Depth, I argued, was also linked to my mode of activity: whether disinterested or purposeful, whether utilitarian or expressive. I sense the space of a room filled with music differently than that of a stair I am climbing. Attuned space, lacking a direct goal, seems to put my egocentric orientation into suspension, while practical action brings it to the fore. In the former, I may be wandering, out of curiosity or disinterest, drawn forth by things themselves and their way of appearing. In the latter, my attention rests on the precise relation between myself and my goal, so that I take a directed and efficient approach, the shortest line between two points. My mode of activity affects my sense of space, insofar as my attention is polarized, or axialized, around my body with respect to its aims. Attuned space may come closest to the "medium devoid of any thing" that is also devoid of any axial intentionality, thus of discrete dimensions.

Moving towards experiences of attunement is one way to shift away from stark egocentricity. So too might allocentric orientation, which puts the ego in relation to something external, higher, greater, more original than itself. The first people to gain a view of the earth from afar were hardly moved to think of Copernicus, Newton, or Pascal. Instead, they spoke with reverence and awe of their distant home. "We go to heaven when we're born." observed Jim Lovell, one of the three crew of Apollo 8.<sup>149</sup> We might discover that the existential foothold needed by the modern subject, and the transcendence sought by the religious seeker, has been here, all around us, all along.

<sup>&</sup>lt;sup>148</sup> So the constitution of objective space via empathy would seem to entail the simultaneous experience of lived subjective space and constituted objective space. That is, it entails orientation. *Might this simultaneity awareness of one's own position, along with a sense, from without, of one's place in the whole place, amount to a form of (limited) transcendence?* 

<sup>&</sup>lt;sup>149</sup> A fitting motto for a renewed geocentrism that would restore the centrality of the earth as our original and revered home, the phenomenological basis of all our motion and rest, and thus of bodily spatiality itself.

## SELECTED BIBLIOGRAPHY

- Arnheim, Rudolph. The Dynamics of Architectural Form. Oakland: University of California Press, 1977.
- Bachelard, Gaston. The Poetics of Space. Translated by Maria Jolas. Boston, Beacon Press, 1969.
- Berkeley, George. Essay towards a New Theory of Vision. Dublin: Aaron Rhames, 1709.
- Blumenberg, Hans. The Legitimacy of the Modern Age. Translated by Robert M. Wallace. Cambridge: MIT Press, 1985.
- -----. The Genesis of the Copernican World. Cambridge: MIT Press, 1987.
- Campbell, John. Past, Space and Self. Cambridge: MIT Press, 1994.
- Edward Casey. *Getting Back into Place, Toward a Renewed Understanding of the Place-World* (Studies in Continental Thought). 2<sup>nd</sup> ed. Bloomington: Indiana University Press, 2009.
- ------. The Fate of Place: A Philosophical History. Berkeley: University of California Press, 1997.
- Diderot, Denis. "Letter on the Blind for the Use of those Who Can See." In *Diderot's Early Philosophical Works*. Translated by Margaret Jourdain. Chicago: Open Court, 1916.
- Louis Dupré. Passage to Modernity. New Haven: Yale University Press, 1993.
- Eliade, Mirceau. The Sacred and the Profane: The Nature of Religion. Translated by William R. Trask. New York: Harcourt, 1987.
- Gallagher, Sean. How the Body Shapes the Mind. Oxford: Clarendon, 2005.
- Grant, Edward. Much Ado About Nothing. Cambridge: Cambridge University Press, 2011.
- Hanna, Robert. Cognition, Content and the A Priori: A Study in the Philosophy of Mind and Knowledge. Oxford: Oxford University Press, 2015.
- Harries, Karsten. The Ethical Function of Architecture. Cambridge: MIT Press, 1997.
- -----. Infinity and Perspective. Cambridge: MIT Press, 2001.
- Heidegger, Martin. Art and Space, Translated by Charles H. Seibert. The Hague: Nijhoff, 1973.
- Heidegger, Martin. Off the Beaten Track. Edited and translated by Julian Young and Kenneth Haynes. Cambridge: Cambridge University Press, 2002. Originally published as Holzwege by Vittorio Klostermann GmbH, Frankfurt am Main, 1950.
- Heidegger, Martin. Poetry, Language and Thought. Translated by Albert Hofstadter. New York: Harper and Row, 1971.
- Howard, Ian P. and Brian J. Rogers. Perceiving in Depth, Vol 1: Depth Perception. Oxford: Oxford University Press, 2002.
- Husserl. Edmund. Analysis Concerning Passive and Active Synthesis: Lectures on Transcendental Logic. Translated by Anthony J. Steinbock. Dordrecht: Kluwer Academic Publishers, 2001.
- ------. "Foundational Investigations of the Phenomenological Origin of the Spatiality of Nature." In *Husserl: Shorter Works*, edited by Peter McCormick and Frederick A. Elliston, pp. 213-233. Translated by Fred Kersten. Co-published by Harvester Press, Ltd (Brighton) and University of Notre Dame Press (Notre Dame, Indiana), 1981.
- ------. Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy—Second Book: Studies in the Phenomenology of Constitution. Translated by R. Rojcewicz and A. Schuwer. Dordrecht: Kluwer, 1989.
- ------. Thing and Space: Lectures of 1907. Translated by Richard Rojcewicz. Dordrecht: Kluwer Academic Publishers, 1999.

- Jammer, Max. Concepts of Space: The History of Theories of Space in Physics. 3rd ed. New York: Dover Publications, 1993.
- Jacob. Michael. Le Paysage. Paris, France/Gollion, Switzerland: Éditions Infolio, 2013.
- Johnson, Mark. The Meaning of the Body: Aesthetics of Human Understanding. Chicago: University of Chicago Press, 2007.
- Johnson, Mark and George Lakoff. Metaphors we Live By. Chicago, University of Chicago Press, 1980.
- Kant, Immanuel. Kant's Inaugural Dissertation and Early Writings on Space. Translated by John Handyside. Chicago: The Open Court Publishing Co., 1929.
- Kearney, Richard. Touch, Recovering Our Most Vital Sense. New York: Columbia University Press, 2021.
- Klee, Paul. *The Thinking Eye. The Notebooks of Paul Klee. Volume I.* Edited by Jürg Spiller. Translated by Ralph Manheim. New York: Wittenborn, 1961.
- Kleiner, Fred S. Gardner's Art through the Ages: A Global History, 13th ed. Boston: Cengage Learning, 2008.
- Kostof, Spiro. A History of Architecture: Settings and Rituals. New York/Oxford: Oxford University Press, 1985.
- Koyré, Alexandre. From the Closed World to the Infinite Universe. Baltimore: John Hopkins Press, 1957.
- Levinson, Steven C. Space in Language and Cognition: Explorations in Cognitive Diversity. Cambridge: Cambridge University Press, 2003.
- Lonergan, Bernard. Insight: A Study of Human Understanding. Toronto, University of Toronto Press, 1992.
- Maleuvre, Didier. The Horizon: A History of Our Infinite Longing. Berkeley: University of California Press, 2011.

Malpas, Jeffrey. Heidegeer and the Thinking of Place: Explorations in the Topology of Being. Cambridge, MIT Press, 2017.

- ------. Place and Experience, A Philosophical Topography. Cambridge: Cambridge University Press, 1999.
- Marion, Jean-Luc. La croisée du visible. Paris: Presses Universitaires de France, 1996.
- Filip Mattens, "From the Origin of Spatiality to a Variety of Spaces." In *The Oxford Handbook of the History of Phenomenology*, pp. 558-578. Edited by Dan Zahavi. Oxford: Oxford University Press, 2018.
- Merleau-Ponty, Maurice. "Eye and Mind." In *The Primacy of Perception and Other Essays on Phenomenological Psychology, the Philosophy of Art, History, and Politics*, pp. 159-190.Translated by Carleton Dallery. Evanston, IL: Northwestern University Press, 1964.
- ------. Phenomenology of Perception. Translated by Colin Smith. London/New York: Routledge Classics, 2006.
- -----. Le monde sensible et le monde de l'expression: Cours au Collège de France. Notes, 1953. Edited by Emmanuel de Saint Aubert & Stefan Kristensen. Geneva: Mêtis Presses, 2011.
- -----. "The Philosopher and His Shadow." In *Signs,* pp. 159-181. Translated by Richard C. McCleary. Evanston, IL : Northwestern University Press, 1964.
- ------. "The Primacy of Perception and its Philosophical Consequences." In *The Primacy of Perception: And Other Essays on Phenomenological Psychology, the Philosophy of Art, History, and Politics*, edited by James Edie, pp. 12-42. Translated by James Edie. Evanston, IL: Northwestern University Press, 1964.
- Moran, Dermot. "Between Vision and Touch: From Husserl to Merleau-Ponty." In *Carnal Hermeneutics,* pp. 214-234. Edited by Richard Kearney and Brian Treanor. New York: Fordham University Press, 2015.

Norberg Schultz, Christian. Baroque Architecture. New York: Electa/Rizzoli, 1986.

- -----. The Concept of Dwelling: On the Way to Figurative Architecture. New York: Rizzoli, 1985.
- -----. Existence, Space and Architecture. New York: Praeger Publishers, 1971.
- -----. Meaning in Western Architecture. New York: Electa/Rizzoli, 1980.
- Panofsky, Erwin. Perspective as Symbolic Form. New York: Zone Books, 1991. Originally published as Die Perspektive als Symbolische Form. (Vorträge der Bibliothek Warburg, 1924/25, Leipzig – Berlin, 1927).
- Petrarch, Francis. "The Ascent of Mont Ventoux." In *The Italian Renaissance Reader*. Edited by Julia Bondanella and Mark Musa. New York: Meridian, 1987.
- Piaget, Jean & Bärbel Inhelder. The Child's Conception of Space. Translated by F. J. Langon & J. L. Lunzer. New York: W. W. Norton, 1967.
- Marcel Proust. Swann's Way. Translated by Lydia Davis. New York City: Penguin, 2002.
- Reynaert, Peter. "Husserl's phenomenology of Animate being and the critique of naturalism." In *Phänomenologische Forschungen*, Vol 5, No. 2, pp. 251-269. Hamburg: Felix Meiner Verlag, 2000. https://www.jstor.org/stable/24360466
- Ricoeur, "Ideas II: Analyses and Problems." In *Husserl: An Analysis of his Phenomenology*. Translated by Edward G. Ballard and Lester E. Embree. Evanston: Northwestern University Press, 1967.
- Sartre, Jean Paul. Being and Nothingness. Translated by Hazel Barnes. New York: Simon and Schuster, 1992.
- Hermann Schöne. Spatial Orientation: The Spatial Control of Behavior in Animals and Man. Translated by Camilla Strausfeld. Princeton: Princeton University Press, 1984.
- Simmel, Georg. Le Cadre et autre essais. Translated from German by Karine Winkelvoss. Paris: Gallimard, 2003.
- Spengler, Oswald. The Decline of the West, Vol. 1 Form and Actuality. Translated by. Charles F. Atkinson. London: George Allen & Unwin Ltd, 1926.
- Erwin Straus, "The Upright Posture." In *Psychiatric Quarterly*, Vol 26 (1952): pp. 529–61, Reprinted in *Phenomenological Psychology:* The Selected Papers of Erwin W. Strauss, pp. 137-65. New York, Garland, 1980.
- ------. "Born to See, Bound to Behold: Reflections on the Function of the Upright Posture in the Aesthetic Attitude." In *Tijdschrift Voor Filosofie* 27/4 (1965), 659-688. Leuven-Paris: Peeters, 1965. Reprinted in *Philosophy of the Body: Rejections of Cartesian Dualism.* Edited by Stuart Spicker, pp. 334-361. Chicago: Quadrangle Books, 1970.
- Ströker, Elisabeth. Investigations in Philosophy of Space. Translated by Algis Mickunas. Athens: Ohio University Press, 1987. Originally published as Philosophische Untersuchungen zum Raum (Frankfurt Am Main: Vitorio Klostermann, 1965).
- Taylor, Charles. Sources of the Self. Cambridge: Harvard University Press, 1989.
- Van Cleve, James, & Robert. E. Frederick, editors. The Philosophy Of Right And Left: Incongruent Counterparts and the Nature of Space. Dordrecht: Kluwer, 1991.
- Heinrich Wolfflin. Renaissance and Baroque. Translated by Kathrin Simon. Ithaca, NY: Cornell University Press, 1966.
- Weyl, Herman. Symmetry. Princeton: Princeton University Press, 1989.
- Zahavi, Dan. Husserl's Phenomenology. Palo Alto: Stanford University Press, 2002.