

THEORETICAL MONOGRAPH

Zero-Horizon

Photographic Art Theory

零式写真芸術論

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2026

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Prologue — The Zero-Horizon

A Theoretical Position for Asking What Precedes Photographic Formation

When photography is discussed, an image is usually already there. Zero-Horizon Photographic Art Theory traces the question further back, prior to the interpretations and evaluations opened by the formed image, toward the conditions through which that image comes to be formed.

The question posed here is how differences on the world side that participate in photographic formation can be described as a generative structure before the post-formation distinctions of image, author, object, meaning, and viewer are introduced.

The word *before* in this study does not indicate precedence in clock time. It indicates theoretical priority. The concern is not with measuring the seconds before exposure or the milliseconds before perceptual processing, but with the structural order in which photographic theory begins to presuppose the distinctions it uses in explanation.

This theoretical position is the Zero-Horizon.

Zero-Horizon Photographic Art Theory and the Japanese title *Reishiki Shashin Geijutsu-ron* (零式写真芸術論) designate the same theoretical system. *Zero-Horizon* corresponds to the theoretical base point named 零の地平 in Japanese. The Japanese abbreviation 零式 refers to the theoretical system developed from that base point; it is not a literal translation of *Zero-Horizon*.

At the Zero-Horizon, differences on the world side are first described as generation on the world side rather than being immediately reduced to object, meaning, representation, or emotion. The argument then proceeds to the world-side outer-layer structure, subject-side internal modulation, the one-time relational event of photographing that includes the camera, the formed photograph, and the viewing event.

Photographic formation is not reduced to a single cause. Deep-layer generation on the world side, the outer-layer structure, changes on the subject side, and the operation of the camera are treated as mutually distinguishable explanatory domains.

The first question of this study can therefore be stated as follows:

Before a photograph is formed, what kind of generative structure can describe difference on the world side?

The second question asks how that world-side structure participates in the event of photographing together with the subject, the camera, and a temporal cut.

The Zero-Horizon is the theoretical point of departure that connects these two questions.

Introduction — Toward the Conditions of Photographic Formation

Method, Comparative Coordinates, and Scope of Zero-Horizon Photographic Art Theory

Zero-Horizon Photographic Art Theory describes the formation of photographic art by tracing inquiry beyond the analysis of completed images and meanings toward the conditions of their formation.

Its formative history includes long-term photographic practice as well as comparative encounters with theories of photography, aesthetics, phenomenology, autopoiesis, quantum theory, and Marginal Art. A reference that contributes to conceptual formation, however, is not identical with an argument that supports a completed theoretical proposition.

References in the formative history help explain why particular questions emerged and why the theory moved toward particular conceptual distinctions. The theoretical body, by contrast, examines propositions through conceptual coherence, explanatory necessity, comparison with existing theories, range of application, and explicit limits. This study connects those two dimensions only after keeping them distinct.

1. Where the Question of Photographic Theory Is Placed

Photographic theory has many legitimate points of departure. Authorial intention, indexical relation to the object, the camera as apparatus, documentary character, reproducibility, social institutions, memory, and viewer experience all provide important coordinates for thinking about photography.

What Zero-Horizon distinguishes is not their relative value but the position from which the question is asked. When the relation between image and object is discussed, the photographic image has already been formed. When authorial expression is discussed, the distinctions among author, object, selection, and image are already in place. The same is true of viewer experience: a photograph already exists as an object of viewing.

Zero-Horizon adds to these post-formation inquiries a theory of formation that asks about the conditions through which the photograph comes to be formed. Its first object of description is deep-layer generation on the world side.

2. The Four Phases of Zero-Horizon as a Theoretical Model

Deep-layer generation on the world side is articulated through four phases: Proto-zero, Zero-tremor, Zero-response, and Zero-return. The four phases describe distinct functions of equilibrium, deviation, the formation of relations, and re-equilibration.

They are neither units of measurement in the natural sciences, psychological classifications of the photographer, nor categories for classifying formed works. They are an analytical model within a theory of photographic art for describing world-side generation prior to photographic formation through functional differences.

For the four-phase model to hold theoretically, each phase must perform a distinct explanatory function, the relations among them must be described coherently, and their responsibilities must remain differentiated from those of the outer-layer structure, subject-side internal modulation, and the theory of photographic formation that follow. Chapter One establishes these conditions through definitions of the four phases and their mutual relations.

3. External References in the Formative History

Shunsuke Tsurumi's theory of Marginal Art provides a comparative coordinate in the formative history of this study by returning inquiry toward the conditions under which art institutions become established.¹ Marginal Art, which addresses the margins and conditions of institutionalized art, and Zero-Horizon, which addresses world-side structure prior to photographic formation, concern different domains. Their relation is limited to a shared problem-setting gesture: tracing inquiry backward from an already established framework toward its conditions.

Autopoietic theory provides another important comparative coordinate for distinguishing external influence from internal change.² In this study, neither the photographing subject nor the act of seeing as a whole is identified with a biological system. Autopoiesis is referred to in a limited way in Chapter Four, where subject-side internal modulation is examined.

Quantum theory entered the formative history as a source of comparative thinking around possibility, relation, formation, and observation.³ No one-to-one correspondence between quantum phenomena and the four phases of Zero-Horizon constitutes a scientific foundation for the theory. The Comparative Supplement examines both the usefulness and the failure points of this analogy.

The common rule in these cases is to distinguish formative importance from logical foundation.

4. Phenomenology as a Comparative Coordinate

Because Zero-Horizon addresses what is theoretically prior to photographic formation, phenomenology provides an important comparative coordinate. Husserl's intentionality and constitution of phenomena, and Merleau-Ponty's embodied perception, offer precise theoretical resources for considering how experience is formed.⁴

The distinction drawn here is not a hierarchy of primordially. A pre-reflective experience that is nonetheless formed as experience for a subject and a model that distinguishes world-side generation from subject-side experience have different explanatory objects.

This comparison becomes specific in Chapter One's four phases, Chapter Three's Proto-Qualia, and Chapter Four's internal modulation. Phenomenology is not borrowed as the foundation of Zero-Horizon. It is used as a comparative coordinate for testing where the boundary between world side and subject side is to be drawn.

5. Comparative Coordinates in Theories of Photography

Peirce's index, Barthes's account of the relation between the photograph and past reality, Benjamin's theory of technological reproducibility, and Sontag's critique of photographic culture all provide important coordinates for considering how a formed photograph relates to object, institution, memory, and society.⁵

Zero-Horizon does not replace these questions. It adds another one: the question of formation. Prior to asking what an image indicates, the theory asks how a single event of photographic formation is constituted through world-side conditions, change on the subject side, the operation of the camera, and a temporal cut.

These comparisons are taken up point by point from Chapter Five onward. At this introductory stage, Zero-Horizon is not ranked as more "fundamental" than existing photographic theory. The task is only to show where different questions enter into relation.

6. Scope of the Theory

The primary domain of application of Zero-Horizon Photographic Art Theory is photographic art.

Chapter One describes deep-layer generation on the world side through four phases. Chapter Two treats the outer-layer structure through three descriptive dimensions. Chapter Three limits Proto-Qualia to a structural threshold that may be established within that outer-layer structure. Chapter Four examines subject-side internal modulation. Chapter Five develops the one-time relational event of photographing formed by world, subject, camera, and temporal cut, and defines the photograph as

a finite trace. Chapter Six addresses the relation between the formed photograph and the viewer through the viewing event. Chapter Seven re-examines the formative origin of photography in relation to the contemporary image environment, including generated images.

Questions may open from this structure toward other artistic domains, but the direct argumentative object of the present study remains photographic art.

After the seven principal chapters, the Relational Supplement examines the relation between Zero-Horizon and Shadō, which emerged from the same long-term photographic practice. Shadō is an independent practical system concerned with the practicing subject's disposition in photographic practice. Its function differs from the subject-side theory developed within Zero-Horizon. The two share a root in formative history while retaining different purposes and conceptual positions; their relation is therefore examined in terms of boundary and adjacency between two systems.

The Theoretical Supplement then refines the description of the outer-layer structure. The Comparative Supplement clarifies the boundaries of external references in the theory's formative history. The Verification Supplement addresses internal objections and conditions under which reconsideration would be required. The Operational Part moves to structural confirmation and authorial positioning of already-formed works.

Chapter One begins with Proto-zero, Zero-tremor, Zero-response, and Zero-return, examining their definitions, necessity, comparative coordinates, mutual relations, and theoretical limits.

Chapter One — The Four Phases of Zero-Horizon

A Model of Deep-Layer Generation on the World Side

The four phases of Zero-Horizon are described through the technical names Proto-zero, Zero-tremor, Zero-response, and Zero-return. Each phase performs a distinct explanatory function within deep-layer generation on the world side. They are not physical stages, psychological states, or categories of completed works.

The functional sequence may be summarized as follows:

Proto-zero → Zero-tremor → Zero-response → Zero-return (re-equilibration) →
renewed possibility of deviation

This ordering is logical and functional. It does not constitute a measured chronological series.

o. Methodological Limitation of the Four-Phase Model

The four phases are an analytical model for describing deep-layer generation on the world side. Their object is world-side generation that may participate in photographic formation. The psychological state of the subject, the viewer's emotion, and the classification of formed works belong to different explanatory domains addressed later.

The model contains a logical order: Proto-zero to Zero-tremor, Zero-tremor to Zero-response, and Zero-response to Zero-return. The concern is to articulate differences of generative function. Clock-time measurement lies outside the responsibility of this model.

The four phases also differ in function from the outer-layer structure and from the operational vocabulary used for works. Chapter One deals only with phase differences within deep-layer generation on the world side. The distinctions from later concepts are defined again at the point where each of those concepts is introduced.

o.1 Epistemological Position of the Four Phases

The four phases are not a classificatory table of directly observed objects. Nor are they arbitrary names. They conceptually reconstruct explanatory differences required when photographic theory asks about conditions prior to photographic formation.

Each phase bears an independent explanatory function while remaining coherent with the others and differentiated from the later responsibilities of the outer-layer structure, subject-side internal modulation, and the theory of photographic formation. In this respect, the four-phase model is neither a direct-measurement model of empirical science nor an arbitrary symbolic system. It is an analytical model for describing conditions of formation within a theory of photographic art.

o.2 What Is Meant by Transition

This chapter uses the term transition between phases. Transition does not mean that a physical object moves from one container into another. It indicates that the function required to describe one generative situation changes and another descriptive situation becomes necessary.

The boundaries among the four phases are therefore established by changes in explanatory function rather than by numerical thresholds. These boundaries are distinct from the structural threshold defined later and from classificatory terms used for formed works.

I. Proto-zero

Undifferentiated Equilibrium and Generative Possibility

1. Definition

Proto-zero is the equilibrium phase on the world side in which difference has not yet become dominant as a particular direction, object, or meaning.

Equilibrium here does not mean a complete absence of difference. It means a state in which the possibility remains that difference may later be organized into relations, while no particular direction has become dominant. In this sense Proto-zero provides the point of departure for generation.

2. Theoretical Necessity

To describe the deviation treated in the next phase, a reference phase is required. If that reference were a completed order or a fixed arrangement of objects, deviation could be understood only as disturbance of an already established state.

Proto-zero instead establishes a neutral equilibrium prior to completed order. This allows later deviation to be located within generation itself. Its theoretical function is therefore to provide the reference phase that makes both deviation and return describable.

3. Undifferentiation and Potentiality

Undifferentiation means that differences may exist while remaining undetermined as particular objects, meanings, or directions.

Such a state contains generative possibility. Potentiality is used analytically to indicate that difference can still be organized into relations. It is not an independent physical quantity, and Proto-zero does not presuppose direct correspondence with a quantum *potential state* or with physical *energy*.

Notes

These notes are provided not to establish external theories as the logical foundation of Zero-Horizon Photographic Art Theory, but to make traceable the formative references, comparative coordinates, conceptual boundaries, and contemporary contexts used in the text.

1. Shunsuke Tsurumi, *Genkai Geijutsu-ron* [Marginal Art Theory] (Tokyo: Keisō Shobō, 1967). In this study, Marginal Art is not treated as a theoretical foundation of Zero-Horizon Photographic Art Theory. It is referred to in a limited sense as a comparative coordinate in the formative history of the theory for tracing inquiry from established art institutions back toward their conditions.
2. Humberto R. Maturana and Francisco J. Varela, *Autopoiesis and Cognition: The Realization of the Living* (Dordrecht: D. Reidel Publishing Company, 1980). The distinction between external influence and internal change on the side affected is referred to here only as a comparative coordinate in the formative history of the theory for subject-side internal modulation. Autopoiesis is not applied isomorphically to photographic action itself.
3. Niels Bohr, *Atomic Theory and the Description of Nature* (Cambridge: Cambridge University Press, 1934), is included as a representative historical reference in the comparison with quantum theory. Neither the four phases nor the theory of photographic formation developed here is derived from Bohr's physics. The reference documents a formative stimulus and the limits of comparison.
4. Edmund Husserl, *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. Erstes Buch: Allgemeine Einführung in die reine Phänomenologie* (Halle: Max Niemeyer, 1913); Maurice Merleau-Ponty, *Phénoménologie de la perception* (Paris: Gallimard, 1945). Intentionality, the constitution of phenomena, and embodied perception are referred to as comparative coordinates for distinguishing the explanatory object of subject-side experience from generation on the world side.
5. In comparisons with theories of photography, C. S. Peirce's *index*, Roland Barthes's account of the temporal relation between the photograph and past reality, Walter Benjamin's theory of technological reproduction, and Susan Sontag's critique of photographic culture are used as principal comparative coordinates concerning already-formed photographs. See Notes 10–13 for the relevant references.
6. David J. Chalmers, "Panpsychism and Panprotopsyism," in Torin Alter and Yujin Nagasawa, eds., *Consciousness in the Physical World: Perspectives on Russellian Monism* (New York: Oxford University Press, 2015), 246–276. The comparison is made not to derive Proto-Qualia from panprotopsyism, but to clarify its boundary with metaphysical discussions concerning properties prior to *phenomenal experience*.
7. Torin Alter and Sam Coleman, "Russellian Physicalism and Protophenomenal Properties," *Analysis* 80, no. 3 (2020): 409–417, <https://doi.org/10.1093/analys/anaa006>. The treatment of *protophenomenal properties* as *non-structural properties* provides a comparative point for clarifying their difference from Proto-Qualia as defined here as a structural threshold.
8. Marcel Kvassay, "The Meta-Problem and the Transfer of Knowledge between Theories of Consciousness: A Software Engineer's Take," arXiv:1903.03418 (2019), <https://arxiv.org/abs/1903.03418>. This reference is included to document a prior occurrence of the string *proto-qualia*. It does not indicate conceptual identity or genealogical continuity with Proto-Qualia as defined in this study.

9. Francisco G. Varela, Humberto R. Maturana, and Ricardo B. Uribe, "Autopoiesis: The Organization of Living Systems, Its Characterization and a Model," *BioSystems* 5, no. 4 (1974): 187–196, [https://doi.org/10.1016/0303-2647\(74\)90031-8](https://doi.org/10.1016/0303-2647(74)90031-8); Humberto R. Maturana, "The Organization of the Living: A Theory of the Living Organization," *International Journal of Man-Machine Studies* 7, no. 3 (1975): 313–332, [https://doi.org/10.1016/S0020-7373\(75\)80015-0](https://doi.org/10.1016/S0020-7373(75)80015-0). Self-production and structural determinacy are not transferred into the theory of photographic practice. These works are used only as limited comparative references in the formative history for considering the relation between external influence and change on the subject side.
10. Charles Sanders Peirce, *Collected Papers of Charles Sanders Peirce*, vol. 2, *Elements of Logic*, ed. Charles Hartshorne and Paul Weiss (Cambridge, MA: Harvard University Press, 1932), CP 2.281. Peirce's discussion of the photograph as an example of an *index* having a real and physical connection with its object is referred to here. This study distinguishes indexicality from its definition of the photographic trace as originating in a one-time relational event of photographing.
11. Walter Benjamin, "The Work of Art in the Age of Mechanical Reproduction," in *Illuminations*, ed. Hannah Arendt, trans. Harry Zohn (New York: Schocken Books, 1968), 217–251. Benjamin's discussion of reproducibility and authenticity is used as a comparative coordinate for distinguishing the one-time character of the photographing event from reproducible forms of realization.
12. Roland Barthes, *Camera Lucida: Reflections on Photography*, trans. Richard Howard (New York: Hill and Wang, 1981). Chapter Five refers to the temporal asymmetry between the photograph and past reality; Chapter Six refers to *punctum* in a limited sense as a comparative coordinate concerning a viewer-specific point of effect.
13. Susan Sontag, *On Photography* (New York: Farrar, Straus and Giroux, 1977). Her discussion of photography's involvement in social and cultural practices such as knowledge, evidence, possession, experience, and consumption is referred to as a comparative coordinate concerning uses and interpretations that arise after photographic formation.
14. For the contemporary environment of photography and generated images, see *Aperture*, no. 257, *Image Worlds to Come: Photography & AI* (Winter 2025; published December 1, 2024); Rob Horning, "What Is Realism in the Age of AI?," *Aperture*, January 31, 2025; and *Foam Magazine*, no. 66, *MISSING MIRROR – Photography Through the Lens of AI* (2024). These materials establish the contemporary context addressed in Chapter Seven; they do not constitute theoretical foundations of Zero-Horizon Photographic Art Theory.

Bibliography

This Bibliography does not present a list of the “primary theoretical foundations” of Zero-Horizon Photographic Art Theory. It organizes, by function, the formative references, comparative and conceptual-boundary references, and contemporary contexts that actually operate in the text.

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