

Subdued Brilliance:

A Study of Life and Order in the Cosmic Vision of Christopher Alexander

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ABSTRACT

This dissertation is an original presentation of the work of architect and design theorist Christopher Alexander, with particular attention to his four-volume opus The Nature of Order: An Essay on the Art of Building and the Nature of the Universe. Alexander is one of the 20th century's most well-known architects, but the metaphysical foundations on which he establishes his ideas are often ignored or dismissed as controversial or irrelevant. In this study, I defend the necessity of these metaphysical foundations as central to his work and theory. With an emphasis on his main themes of "life," "centers," and the "personal," I take up his challenge to the material-mechanistic worldview, along with his alternative proposal of a "modified physics." The inversion the latter asserts transforms a neutral, valueless, dead world into one in which all things abide in life and soul, best understood, as I argue, in the Christian Platonic theme of Sophia. In this way, I am able to describe the "form-language" of his "fifteen properties" as an expression of sophiology, or a wisdom ontologically present to every successful "living" form. The originality of this dissertation comes in the wider breadth and intensification I bring to Alexander's metaphysics—lending his work strength through that of Ravaisson, Goethe, Cusa, Bulgakov, Michel Henry, Plato (and others)—while also offering Alexander's own insights, framed within his affective epistemological emphasis, as contributions which likewise strengthen philosophical understandings of form.

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1. INTRODUCTION

1.1 Alexander's War

One night in a sake bar in Japan, the architect and design theorist Christopher Alexander challenged Toshimi Fujita, a construction manager, to an arm-wrestling match. The winner would control the progress of the work at the Eishin Campus, a project Alexander had been contracted to build years before, and which still dragged on—though “dragged on” may not be quite the phrase. Sabotage, bribes, and betrayals had made the as yet grassy field something of an Elizabethan stage upon which the drama of two warring ideologies played out—a struggle between two systems of approach to the built environment: “System B,” a technocratic, neoliberal paradigm shaped around blueprints, regulations, permits, material requirements, money, efficiency, profit, and a host of other impositions, “all the machinery designed to make society run smoothly, *as if* society itself was working as a great machine”;¹ and “System A,” an older, contemplative, context-sensitive approach that calls for patience, care, attention to wholeness of structure, and to the desires, dreams, and relationships of those who dwell there, and that at every step resists the temptation of the ready-made that sits dead abstractions upon a living earth. “I do not know what possessed me to make such a rash invitation,” writes Alexander.

Toshimi was an enormous man, bigger, beefier, far stronger than I was, and in better physical condition. But somehow, I felt a fire in my blood, and I knew that I had to demonstrate to him right then, at once, my ability to gain the upper hand. . . We sat

¹ Alexander (2012), 49.

on two stools at the bar counter, in the usual arm-wrestling position, and someone gave the go-ahead. Toshimi and I began to push, and for a while, we were almost motionless, deadlocked. And then, quite suddenly, I felt a great vigor in my body, and with a huge push forced his arm down to the bar counter very rapidly, almost in a single motion. He was astonished and chagrined. I looked at him, and told him, “I believe that this is what is going to happen to the Eishin project. In the end, Fujita [the construction company] will have to do what our will desires.”²

Into this imbroglio, we might read tragedy: for System A to prevail it must succumb to the means of System B (aggression, imposition, dominance of will). Or perhaps we see that System B only comes into itself, finds its original purpose and logic, in *serving* System A, the latter resisting the former as antagonistic to any possible human end (mechanism, utility, profit, violence).

But at this point in his career Christopher Alexander was no stranger to this emblematically modern struggle. His whole professional life had been (and would be) lived upon the edge of this precipice. Following his student days, reading mathematics at Cambridge and later awarded his PhD at Harvard (the first the university ever granted in architecture),³ Alexander wrote the field-impacting paper “The City Is Not a Tree,” in which he challenged the mechanical and impersonal presuppositions of urban planning. He argued against a “tree-model” approach to urban design: “a neat hierarchical structure of

² Alexander (2012), 343.

³ His PhD dissertation, “Notes toward a Synthesis of Form,” was also his first book-length publication.

sets and subsets” that serve to mold the city but do not account for the “overlap” and “ambiguity” of relationships between the parts.⁴

Whenever we have a tree structure, it means that within this structure no piece of any unit is ever connected to other units, except through the medium of that unit as a whole. The enormity of this restriction is difficult to grasp. It is a little as though the members of a family were not free to make friends outside the family, except when the family as a whole made a friendship.⁵

The tree-model supposes a hierarchy in which each neighbourhood, institution, or demographic has no overlapping or interweaving relationships with one another but are instead concentrated within their own enclave. A university or mill or Walmart may be deemed the lifeblood of a town or city, but an urban plan that fails to see that the students of a university, for instance, will patronize other neighbourhoods, just as residents will reciprocally make use of the shops, cafes, or medical facilities established around the university, takes an abstracted account of urban life, relying upon a “topographical view” of the city (what Michel de Certeau deemed the *voyeurism* of the professionally aloof) rather than the phenomenological, existential life of the people whose souls carve out ritual idiosyncratic paths through its spaces.⁶

⁴ Mehaffy (2015), 48.

⁵ Cited in Mehaffy (2015), 48.

⁶ Michel de Certeau offers two opposing perspectives, the walker and the voyeur: “The ordinary practitioners of the city live ‘down below,’ below the thresholds at which visibility begins. They walk—an elementary form of this experience of the city: they are walkers.” Certeau (1988), 92. On the other hand, the voyeur experiences a “panoptical god-like view,” as Merlin Coverley describes it, seeing the city as a “vast totality far

Alexander was not arguing for a messier, more ambiguous view of life—for a species of romanticism, say, bridled to the irrational—over against the reductive, deterministic models we tend to call *order*. Rather, he argued, in failing to fit the shape of personal life, the tree model simply did not work: reductive, deterministic models failed to comprehend order at all—they were irrational. Life and freedom were what the tree model subtracted. Without these elements, the rich life of cities and their neighbourhoods cannot cohere. Human communities, he argued, are not hierarchical but “semi-lattice-like,”⁷ observing far more subtle patterns. This battle did not end with urban planning but extended into the tendencies, too, of (post)modern architecture, in the structures of buildings whose governing ethos seemed similarly ill-contrived, anti-relational, and encumbered by abstraction. Accountability for these buildings and environments did not just rest at the feet of the personalities, ideologies, and celebrity egos of architects and planners. Its systemic impact resulted in something still more devastating: in a shifting cultural landscape, we as a society of laymen had forgotten the “timeless way of building,” as Alexander articulated it in 1971. Oriented around certain grammars of fixed principles, refined over time within the made world, this timeless way had established certain idioms for how space was used, different in each culture but bearing similarity enough to suggest patterns between them. Alexander recognized these “patterns” as variations of very simple terms, connecting to form a complex system of movement and use which endowed a

removed from any individual perspective.... ‘His elevation transfigures him into a voyeur.’” Coverley (2010), 104–5.

⁷ “It must be emphasized, lest the orderly mind shrink in horror from anything that is not clearly articulated and categorized in tree form, that the idea of overlap, ambiguity, multiplicity of aspect and the semi-lattice are not less orderly than the rigid tree, but more so. They represent a thicker, tougher, more subtle and more complex view of structure.” Alexander (1965), 58–62.

building, neighbourhood, room or rug with “wholeness,” “life,” “beauty.” These patterns recognized hierarchical centers (as in the tree model) but crucially observed horizontal relationships vital to the success of any living form. In *A Pattern Language*, a book which remains canonical within architecture and design studies (acknowledged as the bestselling architectural theory book of all time),⁸ Alexander describes two hundred and fifty-three patterns that contribute to the vitality of communities and buildings, helping to tie together spaces into homes, to let life emerge through an irreducible set of relationships that are not merely ornamental (a “home” of pure ornament hasn’t earned the name) but impact the biological and psycho-spiritual health of its inhabitants.⁹ Springing organically from centuries of accepted norms which recognize this pleasant effect (as, say, “outside stairs” (pattern 133) of clay homes in certain parts of the world, or the “connected buildings” (pattern 108) of European cities), or those norms which become more explicitly a part of a trade (as in the craftsmanship behind a Turkish prayer rug which separates two areas of colour (see pattern 250) with a “hairline of a different third color between them”),¹⁰ these patterns form a “language” in which the craftsman approaches his or her work.

This corollary with language is important, Michael Mehaffy states, as languages “have a limited set of words, and yet produce a vast set of complex meanings. The

⁸ *A Pattern Language* had a seminal influence on the world of software design, and founder of Wiki technologies, Ward Cunningham, credits Alexander with concepts fundamental to Wiki. See “Christopher Alexander: The Father of Pattern Language,” <https://www.designsystems.com/christopher-alexander-the-father-of-pattern-language/>.

⁹ Among others, *A Pattern Language* has played a marked role in the New Urbanist movement, the Living Villages movement, the Tiny House movement, movements in bio-architecture, each of which has placed foremost the psycho-spiritual health of human beings.

¹⁰ Alexander (1979), 220.

relationships between words are not merely linear (as in a list) but more often form a meshwork of complex interrelationships (as in poetry). Again, while there are nested hierarchical relationships, there are also overlaps, cross-linkages, and ambiguities.”¹¹

While words may have meanings we can agree on, their use is not a mere series of identical repetitions. Words interrelate with other words to form something new, events that speak to the ambiguity at their edges, potentialities there in the words themselves; consider the way in which *The Rhyme of the Ancient Mariner*, for instance, is potential in the sounds and letters of the alphabet. For Alexander, patterns suggest language in just this way. The language they form doesn’t propose a rigid system of ready-made concepts that seek to constrain the human creative endeavour, but supposes, rather, certain resolutions to problems, a repository of universal pathways and habits of design that actually provide the creative endeavour with its unlimited semantic range. You can do many things to make a room with a window on just one wall more pleasant, but none better than ensuring there is a window on a second wall (“Light on Two Sides of Every Room”). You can do much to spruce up a small balcony, but don’t expect frequent human use if its depth is less than six feet (“Six-Foot Balcony”).¹² Simply put, a wheel can do many things (or one thing to many purposes), but if it is not round, it does none. Design of the built environment is one which resolves ornament and function to create beautiful form: if it fails to attend to our bodies (e.g., a shallow balcony) or our souls (e.g., insufficient light for the heart to take rest), then it becomes impersonal and capable of only a second-rate

¹¹ Mehaffy, (2015), 57

¹² Alexander (1977), 746, 781.

aesthetic achievement.¹³ As Mehaffy argues, patterns are not always necessary “for every structure in the built environment” but are there to “represent a workable resolution” to the relationships between stronger and weaker centers in a space.¹⁴ We might argue, however, that any building free of problems is one that has sufficiently realized a vision of form consistent with the relational, embodied, and spiritually pleasing character that the patterns seek to guide us toward.

The reception of Alexander’s pattern language has fallen largely within two camps. On one side are its harsh critics: architects who “[mistook] it as solely a finite set of architectural prescriptions, and failed to grasp the potential of its deeper structural logic.... This aversion may be especially emotional among architects, because any such finite set of prescriptions, however generative in nature, is commonly assumed to place an unwarranted restriction on the designer’s unfettered capacity to create novelty.”¹⁵ These critics see Alexander, ironically, as proposing a mechanical force to the design process. In other words, they see Alexander as an extension of the System B mentality that they, too, claim to oppose. However, in an argument for the eschewal of all universal patterns to the human-made world, this group presupposes and reinforces the Cartesian proscription upon reality that instantiates the modern System B approach in the first place. Their recourse to a subjectivist arena of beauty—the made world as the “life-world”—is one

¹³ As Nathan Robinson states, “If a place feels cold and off-putting and you don’t want to visit it, well, it’s badly-designed, unless the purpose is to repel people, in which case it is well-designed but just strangely sociopathic.” Nathan Robinson, “When Is the Revolution in Architecture Coming?” *Architecture and Design*, April 15,) 2021 (<https://www.currentaffairs.org/news/2021/04/when-is-the-revolution-in-architecture-coming>)

¹⁴ Mehaffy (2015), 57.

¹⁵ Ibid., 56.

which presupposes the objective world as one of necessity, of push-and-pull mechanism. If material-mechanical forces are all that can describe objective space, then beauty must happen somewhere else (i.e., the eye of the beholder). Withdrawing into the cult of originality, authenticity, and creative genius, this group helps further fragment and fracture the living environment, contributing to the landscape of meaninglessness that the mechanical spirit has long wrought.

More unexpectedly has been the response on the other side, architects and designers who have employed pattern language, indeed, as a blue print, as a certain set of mechanical proscriptions in which the ultimate point is lost—where trees, in other words, have been made from patterns: “Alexander and his colleagues were disturbed to find that many of the designers inspired by the book produced crude work that lacked the simple dignity of older vernacular buildings. Clearly they had not succeeded in replacing the robust traditional pattern languages of vernacular building with an equivalent new technology. What was the missing methodology?”¹⁶

Something was missing, something that pattern language, useful a tool as it was, had not sufficiently zeroed in on. A twenty-five-year effort ensued, a project that would become Alexander’s opus. In the four volumes of *The Nature of Order*, Alexander moved much closer to considerations of form and order, producing more generalized concepts of form which could articulate dynamics which appeared across all successful patterns. “For twenty years,” he writes,

¹⁶ Ibid., 67.

I spent two or three hours a day looking at pairs of things—buildings, tiles, stones, windows, carpets, figures, carvings of flowers, paths, seats, furniture, streets, paintings, fountains, doorways, arches, friezes—comparing them, and asking myself: *Which one has more life?* And then asking: *What are the common features of the examples that have most life?*... I managed to identify fifteen structural features which appear again and again in things which do have life. These are: 1. Levels of Scale, 2. Strong Centers, 3. Boundaries, 4. Alternating Repetition, 5. Positive Space, 6. Good Shape, 7. Local Symmetries, 8. Deep Interlock and Ambiguity, 9. Contrast, 10. Gradients, 11. Roughness, 12. Echoes, 13. The Void, 14. Simplicity and Inner Calm, 15. Not-Separateness.¹⁷

Rather than pattern languages, *The Nature of Order* proposes a single “form language” composed of fifteen properties, each of which has a generative capacity within a structure. Of course to the modern artist this seems an even greater threat to the free creative enterprise, hemmed in now not by two hundred and fifty patterns but by a mere fifteen properties! But a priority upon relationality, as Alexander’s proposal supposes, *hems* us in. Indeed, the fifteen properties each accentuate a property to form that achieves a wholeness, that nurtures part-to-part relationship in light of the whole. What makes a property a property isn’t a reliance upon fancy, cultural tradition, or preconceptions forged in one’s subjectivity or lifeworld. What makes it a property, rather, is its universality, its

¹⁷ Alexander (2002), vol.1, 144. *The Nature of Order* hereafter cited as *TNO* with volume and page number (e.g., TNO 1:144).

activity in those coherencies of form for which we give it the name “beauty,” no matter the context or culture. Of course, in a mechanistic and technocratic paradigm, *relationality* hasn’t any ontological valence. Every entity is ultimately a monad whose relationship to its place and environment is a nominal contingency with no metaphysical import. Alexander knew that any such form language would have no semantic range or success within a paradigm of common empirical assumptions. Not only did he need to extend back to consider the “missing methodology,” but he had to go even further, to dig down to prior metaphysical assumptions of what the physical world itself is. If there is a nature to order coeval with beauty, then this exists in the material world itself. This led Alexander to surprising conclusions, for this wasn’t a mere re-definition of matter, some slight shift in an understanding of matter’s quantitative capacities; to redefine matter as inherently relational is to recast the world as a place with *soul*, with *life*; it is to return to a model of the world akin to Plato’s “living animal,” where orders of world soul, mind, and eternity (terms Alexander’s own idea of “life” quickly and easily invokes, as we will see) become phenomenological considerations in our encounter with space and matter.

As a scientist trained in mathematics at Trinity College, Cambridge, I found that I was sometimes formulating concepts which were hard to believe. Sometimes I felt I was betraying my training. The new principles I discovered seemed questionable. It was, in many cases, even embarrassing to formulate them, very hard to allow myself to think these thoughts. I stood looking always at my empiricist tradition, and at the tradition of thought which I learned at Cambridge, and felt ashamed

sometimes to be saying such things. But the facts I encountered were stronger than my squeamishness. I found that I was able to construct a coherent view of order, one which deals honestly with the nature of beauty, but only by formulating new and surprising concepts about the nature of space and matter.¹⁸

And cause for squeamishness did not end there. Such a radically new (and old) model does not merely suppose yet another option for the “buffered self,” casting its glance like a remote lighthouse upon all which it wishes to know and manipulate.¹⁹ In this new model, boundaries around us fall, the world becomes a living flesh in which each of us are porous centers attuned to the life of the whole, and implicated in its unfolding. It is, in other words, not just another way of looking at the world *out there* but also at the world *in here*—indeed, outside and inside (or objective and subjective) become overly simplistic categories. In Alexander’s “modified physics,” not only is the material world modified but so are we, and this modifies, too, our methodology in dealing with space. Feeling takes precedent over geometry—not, however, as feeling *over against* geometry but feeling as that which geometry serves. Human persons, when purified by the humility of a contemplative act, become the grander measure of truth or *logos*; the finesse of personal being becomes the technique that encounters, observes, and creatively engages the formal activity unfolding

¹⁸ *TNO*, 1:2. Nikos Salingaros, who helped Alexander edit *TNO*, describes Alexander’s initial reluctance similarly: “Having worked with him on editing *The Nature of Order*, I can vouch for the fact that he did not introduce those concepts arbitrarily, or merely in order to justify a preconceived aesthetic theory. He was led to them, sometimes reluctantly so, because they seemed to explain an empirical concept that he had discovered either directly or intuitively.” Salingaros (2020a).

¹⁹ The “buffered self” and the “porous self” are terms used by Charles Taylor to describe, respectively, a modern self who supposes boundaries between himself and the world and a pre-modern self open to spiritual realities. See Taylor (2007).

in space and matter through time. A central emphasis for Alexander is that “*human feeling is mostly the same, mostly the same from person to person, mostly the same in every person.*” Of course, as he states,

There is that part of human feeling where we are all different. Each of us has our idiosyncrasies, our unique individual human character. That is the part people most often concentrate on when they are talking about feelings, and comparing feelings. But that idiosyncratic part is really only about ten percent of the feeling which we feel. Ninety percent of our feelings is the stuff in which we are all the same and we feel the same things.²⁰

What this epistemology supposes is not only a metaphysics in which the life out there suggests a common life in here, but one that concomitantly supposes that all matter-space is potentially “person-stuff.” There is no “outside” as such. To employ some of the terms I will use to gloss Alexander in this study, all of nature shares a common root: behind nature natured (*natura naturata*)—that is, the appearances of things, their materiality, their mechanical processes—is the swell of nature naturing (*natura naturans*), the life or *arkos* that precedes matter-space as its *prius*; *arkos*, importantly, is *personal*, and within it all creatures are located, finding true movement realized not in push-and-pull processes but in qualitative acts of imaginative connection which initiate a common unfolding in the environment and in oneself.

²⁰ *TNO*, 1:3–4.

In *The Nature of Order*, Alexander mounts his most sophisticated defense of the System A approach to the built environment, one which goes far beyond architecture as such to suppose a renewed vision of the cosmos, one that begins in feeling (or *nous*, which is not just an intellectual participation, as the word often suggests, but a movement of our deepest intuitions toward love and beauty)²¹ that calls upon a wisdom that reaches into the divine ground of reality itself. Alexander's match with Fujita that night in the early '80s foreshadowed a much longer struggle, one which he would eventually realize was fundamentally metaphysical. Our cities, our buildings, our methodologies—alongside the vision we have of ourselves—will never escape System B approaches and preconceptions if we fail to see the world as *living*, and *life* as something which connects us to it.

1.2 Argument and Layout of Dissertation

This study hopes to continue Alexander's crusade by taking up, specifically, the metaphysical themes of *The Nature of Order* to give further philosophical ballast to what has too often become a discredited or discarded aspect of Alexander's influential theories. In other words, this dissertation argues the case for a theory of personal life in both animate and inanimate nature, in both conscious and unconscious beings, moving alongside Alexander's own terms and arguments, and his priority upon the beauty of form and the creative process that brings these to light. The argument will unfold as follows:

²¹ Williams (2024), xx-xi.

In the first section, I will offer a brief introduction to the reader yet unacquainted with Alexander's work in *The Nature of Order*. Here, I will clarify the metaphysical themes central to Alexander's view of cosmic order: "life," "centers," and "personal," as well as the "measure of the self" epistemology through which one connects and navigates these themes. This general overview will prepare the reader for the following sections, where discussion of themes become far more detailed.

In section two I will trace Alexander's critique of mechanical philosophy and then set upon the more rigorous critical endeavour to seek out the basis for mechanism's historical emergence. The mystery of what sits behind all mechanism—namely, the will or *telos* of any being—was a mystery the philosophers and physical scientists of the time could not resolve, leaving mechanism as a second-order phenomenon without the power to explain itself as ontologically primary. If thinkers from Newton to Priestly could not come to conclusive positions on mechanism, then what accounts for its rise to the throne of chief cultural paradigm? Here I investigate Descartes's philosophical impact on metaphysical presuppositions, the well-known cleft imposed between his substances of mind and matter such that we come to understand them as existing outside and apart from one another, leaving matter famously dead and mind hardly breathing. Critiques of Descartes are, of course, as old as the Cartesian view itself. However, the novelty I apply comes in the philosophical genealogy presented by the French Spiritualists (namely, Pierre Maine de Biran and Felix Ravaisson) who climb their way out of the Cartesian trench in a way which lends strength to Alexander's epistemology and metaphysics and offers us

refinements in language around teleology (the “effortless will”) that Alexander will later himself employ.²²

In section three, we take up Alexander’s “modified physics” as an inversion of the mechanistic worldview which intimates an analogical, world-soul vision of reality. However, what is meant by “world soul” will need careful delineation, taking into consideration the *personal life* at the core of this vision. We will, as it were, troubleshoot different world-soul models (Plotinus, Proclus, Schelling, Bulgakov) to see which not only falls best in line with Alexander’s cosmos but which best obtains philosophically in resolving most difficulties. As we will conclude, Sergius Bulgakov’s biblical notion of Sophia becomes the model that satisfies both, so that Alexander’s theory of personal life is duly called a “sophiology.”

In section four, we turn to Alexander’s methodology of “generative building” and note how precisely this method works in line with the metaphysical picture so far established, comparing the approach to that of Goethe’s “gentle empiricism.” I also make use of Nicholas of Cusa’s development of the Thomistic-Aristotelian theme of potentiality and actuality as a means of correcting romantic over-emphases on movement, change, possibility. Having taken a deep look at the System-A methodology, we then look at System B’s and its implications for society, economics, relationships, and most crucially, the existential issue of death.

²² The language of “effortless will” is one used by Felix Ravaisson (as we will see) to explain the “force” that precedes mechanism, a term Alexander will use as well.

Section five brings us to a long and thorough engagement with the fifteen properties: (1) levels of scale, (2) strong centers, (3) boundaries, (4) alternating repetition, (5) positive space, (6) good shape, (7) local symmetries, (8) deep interlock and ambiguity, (9) contrast, (10) gradients, (11) roughness, (12) echoes, (13) the void, (14) simplicity and inner calm, and (15) not-separateness. I will describe each of these properties in turn, using helpful illustrations offered across the four volumes of *The Nature of Order*. I will seek to connect each property to its service within Alexander's theory of life, as well as to the sophiological dimensions we have added in order to deepen the theory. What we see is that these fifteen properties are not just an instruction manual for builders, nor a reflection of patterns in organic life (though they are, surely, both of these) but more emphatically propose something ontological in art and nature which the experience of beauty communicates: relationality, unity in multiplicity. "A design is defective," states Nikos Salingaros, "when it pursues particular concerns in isolation." In each property lies an awakening percipience, an intuition of the whole of which it partakes.

Section six presents what at first appears as a serious setback for our study—namely, Alexander's disavowal of teleology in nature. Inferences must be made in this section, for it not only presents a potential setback to our thesis but also to Alexander's. It is hard to develop a model of a living and meaningful cosmos—of both animate and inanimate life—when shy of an inherent purpose, or *telos*. Our task on this theme will be to make Alexander's metaphysics cohere and thus to critically engage what might appear, at first blush, as a replacement of teleology with the laws of physics (i.e., the law of least energy), swinging Alexander into a deterministic, material, autopoietic model no different

from mechanistic assumptions. On a deeper reading, however, Alexander proposes an “effortless force” prior to mechanical nature, allowing teleology an entrance into his system. A conclusion may thus be that Alexander has a thin or incorrect notion of teleology (i.e., the kind caricatured by modern science as additions, archaic, naïve, and magical, used to fill unresolved gaps). However, to simply note a terminological error would be to fail to offer Alexander a generous reading. Here, the meaning behind the words offers us more insight than would a simple critique and dismissal. Alexander’s resistance to teleological language may actually be one that hedges his theory of life in an important way, namely, in the way in which life may become manifest as both conscious and unconscious. Indeed, most of nature, cohering within the continually unfolding fifteen properties, does so as unconscious, as asleep, as matter not yet awake to itself but nevertheless persisting by some desire within individual natures. What kind of desire this ultimately is will be central to our discussion.

Sections six and seven are the most constructive engagements of the study. Section six, as just discussed, attempts to right Alexander’s course, and find a delicate balance between the meaning of the words and the words themselves to turn out a metaphysics that honours Alexander’s theory of life, while taking his reservations to heart, so that our broadening of his cosmic picture does not venture outside anything he would himself propose. Section seven, on the other hand, does not find the constructive challenge within Alexander’s own work but within the work of his critics. To frame the argument, I take two in particular, David Weeks and Michael Mehaffy, neither of whom are antagonists of Alexander’s thought but, rather, acolytes who studied under or worked

alongside him. Neither Weeks nor Mehaffy accept Alexander's metaphysical views as necessary to his building and design theory; indeed, they see them as possibly (if not certainly) harmful to his theory. Their criticisms turn around similar anti-Platonic commitments that view form as a rigid, static verity that kills dynamic creativity in being an abstract imposition on the creative process. In response, this section attends to form and, alongside Alexander, employs Michel Henry, Wassily Kandinsky, Sergius Bulgakov, as well as a careful study of themes in Plato's middle-work the *Philebus* to demonstrate nuances easily missed in the eternal ideas. Far from rigid, frozen, or dead, eternity is warmth, movement, and word, most starkly revealed in the countenance of the human face. Our disagreement will thus conclude in a common appreciation of what matters to art and creativity—namely, freedom; but this appreciation of freedom sees forms and their eternity as the very theatre or playground in which we move and create. Freedom, as such, is not abstract but a reality most intimate to us.

1.3 Relevance of Dissertation Within the Scholarly Literature

There has been no thorough book- or dissertation-length treatment of Christopher Alexander's metaphysics. Indeed, few articles take up his theory of life in any robust philosophical sense. Where they do, presuppositions lean toward philosophies that fall back on (post)modern assumptions that see life as *prima facie* unapproachable if it is to be understood in the way Alexander most certainly understands it: as a phenomenon whose source lies beyond matter-space and mechanical processes. It is no surprise, therefore, that in the only anthology to bring together thinkers in critical appreciation of his work,

“life” is defined quite generally. In the introduction to *In Pursuit of a Living Architecture: Continuing Christopher Alexander’s Quest for a Humane and Sustainable Building Culture*, editor Kyriakos Pontikis describes “living architecture” as “built environments with sustainable qualities that nurture human beings and their surrounding ecological systems.”²³ This is done, doubtlessly, in order to accommodate contributors who write more about practical methodologies in applying Alexandrian techniques (i.e., of “wholeness”) or for those reflecting upon projects in which these methodologies were either successful or unsuccessful. Such contributions make up two-thirds of the anthology, and defining “life” or “living architecture” lightly, even vaguely, enables authors to hold up the spirit of Christopher Alexander while not necessarily treating his ideas wholesale. They are architects and craftsmen, after all, not held to the disciplinary expectations of philosophers or theologians. Yet, as we will insist, the inherent flaw in taking Alexander’s work piecemeal—as a practical process of creative building whose method still *works* in the absence of his metaphysics—is one that misses the point of Alexander’s late work *The Nature of Order*. Our methodology depends upon our metaphysics. If there is no immaterial ground, then life is an emergence of material processes. Life is therefore nominal, and if this is the case the patterns or properties do not serve anything greater than the matter in which they subsequently appear, and if they serve only matter, then no principle of *logos*, no *life*, accounts for their beauty or formal existence. Rather, life and living architecture are a matter of taste; not only is the entire purpose of *The Nature of Order* thrown into question by the eschewal of his metaphysics

²³ Pontikis (2016). 1-2.

but so are whatever insights we thought were of interest in pattern languages. The world is soul, the world is life: from here we make our start or nothing coherent or lasting follows.

Some in the anthology, namely David Seamon and David Weeks, have an acute understanding that Alexander's concept of life goes further than the nominal, even (for Weeks) disastrously further in presuming a metaphysical ground which creates a rigid set of unalterable rules that impede a creative and dynamic reality. Weeks's argument will be our central foil in the final section, as will Michael Mehaffy's.²⁴ Of course, there are those who share Alexander's spiritual vision, and are at home in the terminology. Jennifer Quillien's gloss on Alexander's *Nature of Order* works within Alexander's metaphysical concepts without strain.²⁵ Nikos Salingaros, likewise, assumes Alexander's language, shares his spiritual sensibilities, and argues, in a similar vein to Alexander, that only a religious culture can return architecture to a premodern, vernacular style.²⁶ Mathematician Bin Jiang, too, shares these sensibilities, while seeking further mathematical refinements in the phenomenon of "living structure,"²⁷ an important area of attention and one Alexander believed needed further academic treatment. While studies of Alexander's design theories thankfully live on in thinkers such as these, a major study of his metaphysics is lacking—an undertaking I see as not only purposeful in itself but one which could offer further resources to Quillien, Jiang, and Salingaros, as well as others who

²⁴ Mehaffy includes an essay in the anthology but not a discussion on Alexander's metaphysics. We will take his own critiques of Alexander from *City Alive*.

²⁵ Quillien (2007).

²⁶ Salingaros (2020b); Salingaros (2020a); Salingaros (2022).

²⁷ Bin Jiang (2019), 96.

accept Alexander's metaphysics and seek to work within it but could use a deeper philosophical evaluation of its precedents and implications.

Late in the writing and research of this dissertation, a volume of the journal, *The Side View*, came to my attention, in which Alexander is given philosophical treatment by several different authors. A number of these articles, however, still corroborate a view that does not quite meet with Alexander's insistence upon a divine and transcendent ground. In Bonnitta Roy's article "Complex Potential Systems," for instance, Roy limits her speculative engagement in a relational ontology that never breaks through immanence, invoking "ambiguity" and "incompleteness" as the epistemological outer limit of her thesis. Likewise, Benjamin Parry offers James Gibson's concept of "affordance" as an explanation of our experience of life in objects. Affordance is the meaning we perceive in a thing, beyond its physical properties. The concept can offer us a further phenomenological grasp of Alexander's notion of living centers—breaking down the barrier of subject and object toward a meaning that is actually in the object (as well as in the subject)—but this is only a further phenomenological description of the reality Alexander presents; it is confluent with his metaphysics but does not seek to address it, remaining, as it were, on the safe and steady (though limited) shores of strict phenomenology (attending to appearances, never the noumenal *Ding an sich*).

In the edition of *The Side View*, there are also essays which agree with Alexander's metaphysics and offer it different avenues of engagement. James M. Maguire, a former student and colleague of Alexander's, offers an introduction to the layman on Aristotelian themes (substance and being) and Platonic ones (becoming and perfection), as well as

Aquinas's threefold notion of beauty (*integritas, proportion, claritas*) as foundational philosophical topics upon which to better understand Alexander's thought and methodology.²⁸ Stephen Pimentel offers a sophisticated critique of a contemporary culture of misology, or *logos*-hatred, in which reason becomes nominal and empty, and seeks to restore a Platonic sense of *logos* as "reckoning," an encounter with the patterns of the good toward which "desire" (*eros*) compels us in the highest human activity (i.e., intellect, or *nous*).²⁹ For Pimental, Alexander offers us a new way to reengage Plato, likening his "patterns" to the eidetic reality that is not a separate world beyond (*pace* Nietzsche) but very much a present world, observed and experienced in the "patterns of the good" that come through in beauty. Whitehead scholar Matthew David Segall writes a short piece that, likewise, agrees with our thesis on many points.³⁰ Segall sees Alexander as making "bold cosmological, and indeed, theological claims," comparing his metaphysics to observations in Schelling and his methodology to approaches undertaken by Goethe and Rudolf Steiner. "Within us," writes Segall, "lie dormant supersensory organs that, if properly cultivated, are capable of perceiving not only the reflected light of material surfaces, but the emanation of love from deeper agencies."³¹ However, for Segall, these deeper agencies, or "I-beings," in Alexander's terminology, "are not supernatural or in any way beyond this world. They have remained invisible to materialist science only because *they reside on the inside of this world*, providing the subtle formative forces or generative

²⁸ Maguire (2021).

²⁹ Pimental (2021).

³⁰ Segall (2021).

³¹ Ibid.

conditions necessary for the manifestation of this world's many organizational forms.”³²

Like Bonnitta Roy, Segall seeks to find in Alexander's sense of life a middle being “not merely material... [but] also not separate from or beyond matter.”³³ Segall reads Alexander's metaphysics in light of the Whiteheadian notion of “concrecence,” a dynamic level of reality that integrates insights both metaphysical and physical within a single panentheistic “process.” Unlike Roy, who fails to escape materialist reduction in failing to suppose an ideal reality, Segall does propose a divine level of being yet one which is integrated into creation. In other words, God does not entirely transcend matter; rather, he is in *process* alongside and inside it. Instead of a materialist reduction, Segal proposes a materialist inflation (one we will encounter in section four in an analysis of Schelling's vision of the world soul). We will propose, on the other hand, a deeper analogical synthesis alive in Alexander's thought, one which maintains the integrity of physical and metaphysical realities without the error of bifurcation, on the one side, or reductions to either extreme, on the other.

We might note here, too, that Whitehead's thought is an easy and common comparison with Alexander's. This is not unwarranted—Alexander makes use of Whitehead throughout *The Nature of Order* and takes up Whitehead's pursuit in seeking a resolution to Whitehead's famous “rift.”³⁴ But we ought not to reduce Alexander to a Whiteheadian—not, at least, to the letter. While they share an obvious conviction against mechanist thinking, and while they share a view of a reality thoroughly alive (“life” is a term

³² Segall (2021).

³³ Ibid.

³⁴ *TNO* 4:17.

for both thinkers), one must note that Alexander's sources are incredibly eclectic. Were his argument ultimately Whiteheadian, there is no reason to think that Alexander would not make this explicit. But because he pursues—with a Whitmanian or Emersonian vigour—his own spiritual-empirical conclusions, his nuances are easily lost if we hold him too closely alongside any one particular thinker. Indeed, if we hold Alexander up alongside Sergius Bulgakov in this study, it is not to subtract nuance but precisely because the latter lends metaphysical presence, even personification (Sophia), to the act or rhythm of nuance at its height (i.e., in an analogical vision of the world) which Alexander courts throughout the work.

In the literature so far mentioned, none of the authors have taken the particular direction of our thesis. While some lean the way of our themes (in the Platonism, for instance, which Maguire or Pimental each respectively suggest), none go so far as to place Alexander's work in an analogically shaped cosmos, one of a mediatory soul or wisdom, which would demonstrate the radical reversal of his anti-mechanistic metaphysics and methods. Indeed, even Stratford Caldecott's treatment of Alexander—the text which marks the greatest inspiration for this dissertation—may also be critiqued in this light. Caldecott's *The Radiance of Being* is perhaps the most full-bodied engagement with Alexander on the terms of this study.³⁵ He deals with the themes of life, wholeness, the personal, and even a comparison of Alexander's insights to theological notions of Sophia, yet, in spite of his great admiration for Alexander, he suggests the theme of personal life is

³⁵ Caldecott (2013), 57–79.

pushed “a little too far,” slipping into something like an unqualified animism. I begin section one with an appraisal of Caldecott’s treatment of Alexander on this theme.

1.4 Scope of Argument

The dissertation traces a series of practical questions which follow from what we establish, alongside Alexander, in section one: If mechanism cannot be rationally understood as the foundation of reality, then what is the real? If the physical world is not dead, but on the contrary, *living*, what sort of life, or soul, animates it? How does this change our scientific/creative methodologies? How does this change how we understand the self in relation to the world? How are Alexander’s fifteen properties understood in the light of a reality that lives? Just as Alexander’s “modified physics” shifts our understanding of the physical world, how does this paradigm alter how we understand the ideal realm (could geometry, for instance, find connection with feeling)? These enquiries shape the thesis, and they will be taken up in a Christian Platonic approach as those which best make sense of Alexander’s *The Nature of Order*, brought to pronounced light in section three (where we establish the sophiological world soul as that which best reflects the Alexandrian cosmos).

While Alexander is an architect and design theorist, this study will not deal in any depth with architectural or design theory as such. The field of architecture is not, of course, barren of philosophical engagement—on the contrary, architecture is closely married to philosophy, even if this seems less and less the case in our time. Platonic and Pythagorean concepts of harmony shaped much of ancient architecture; indeed, the

ancient architect himself found an analogous vocation to the *Timaeus*' Demiurge who "made the cosmos with an eye to mathematical perfection, the 'music of the spheres,'" just as the architect gave "order to the human world."³⁶ Architecture across history has tracked, and communicated back to us, the course of human self-understanding. The ancient analogical and symbolic universe that reflected the human soul (because tethered to it) was once the vernacular in which our building and buildings spoke (as in Vitruvius),³⁷ but a series of inward turns, beginning perhaps with Augustine³⁸ and ending with the postmodern schools of our time, have ceased to place us within nature; what was once vernacular is now specialized, and the self that buildings now reflect, if they do at all, is a self uncertain and disoriented in a vast cosmos it grasps in all but limited ways.³⁹ Placing Alexander and his themes more intimately in a genealogy with his predecessors—in figures like Vitruvius, Ficino, Alberti, and others who have influenced the course of architectural design—would be a profitable study, and a contribution which has not, to my knowledge, been undertaken. However, I will not wander into these territories. The appeal I make for

³⁶ Perez-Gomez (2016), 33. A further study might also seek to place Alexander historically within a genealogy of Western concepts of harmony. See, for instance, the work of S. K. Heninger Jr. for an understanding of Pythagorean harmonies as culturally omnipresent up until at least the Renaissance. Heninger Jr. (2013). See also Leo Spitzer's seminal work on the concept of *stimmung* (attunement), which Perez-Gomez draws on extensively. Spitzer (2021).

³⁷ See Vitruvius, *De architectura* 1.2.

³⁸ Such beginnings moved with emphases in new understandings of music. Augustine, for instance, placed harmony not in perfections of physical space (as in the emphases of his predecessor Ambrose, whose creation of the hymn led to the "ritual dances" of liturgy) but in the harmony attained in the self-consciousness of the individual. The City of Man, after all, was imperfect, and the City of God, heard only *within* the intimacies of the heart. See Perez-Gomez (2016), 45. The work of sociologist Richard Sennett also points to an inward turn initiated by Christianity. In converting the pagan architecture of Rome, with its emphasis on public spaces, the basilicas (originally "long houses"), interiorly adorned, placed new stress on the inside of city spaces rather than the outside. This new orientation would eventually place privacy over earlier emphases on public spaces and public roles (as in Greece and Rome), resulting in a variety of sociological and psychological shifts in selfhood. See Sennett (1977).

³⁹ See, for instance, Daniel Libeskind's new addition to the Royal Ontario Museum (Toronto), or the CCTV building in Beijing, built by Office for Metropolitan Architecture and aptly nicknamed "Big Underpants."

Alexander is not one that historical precedent will much serve, given, in particular, the common criticisms of nostalgia his work often faces.⁴⁰ My appeal is to the truth of his metaphysical assertions; in the correspondence epistemology of the “measure of the self”; in the ontological claims of the fifteen properties; and in the metaphysical implications in his themes of “life,” “centers,” and the “personal”; along with the insufficiency of mechanistic and non-teleological arguments applied to the natural world. Further, Alexander’s ultimate statements on order are not ones made *ad hoc* within, or for, a particular discipline. He speaks of the nature of order in all respects, for which architecture (particularly in volume four of *The Nature of Order*) seems almost to serve as no more than a helpful illustration. His work extends a broad invitation of engagement and inquiry, even to those of us who can barely organize or successfully adorn a room (speaking for myself), let alone build one.

Nor is this work one of aesthetics, strictly speaking. I do not take it as my task to delineate and analyze the phenomenon of beauty and its multiple categories, though I do think this would be a profitable task in Alexandrian studies. Alexander’s idea, for one, of the “personal” suggests a foundational principle to beauty, undergirding the sublime, the ordinary, the pleasing, *wabi-to-sabi*, et al. The *askesis* in which we cleanse ourselves of invasive aesthetic tropes (from culture or habit) boils down to those simple questions

⁴⁰ Such criticisms fail to take into account Alexander’s stated attempts to synthesize traditional with modern methods. Early in his first book he plainly states his problems with the “fetish” for old intuitive ways that seek to eschew modern advances in technique; he is even critical of William Morris on this topic. There is no avoiding “a loss of innocence,” as he describes it, and those who seek an ersatz “security in innocence,” avoiding not only machinery but any ostensible intrusion on intuitive capacities (techniques of form in theory, geometry, etc.) will ironically become those architects who, “in a frenzy of artistic individuality,” construct the most abstracted, inhumane forms. Alexander (1964), 9–11.

Alexander asks in all humility: *What would make a gift to God? What would make a gift to one I loved? What is, and what fails to be, personal?*⁴¹ While our study sets ground for this research, it does not seek to frame its conclusions within an overt field of aesthetics. Our concern is not aesthetics as such (as a disciplinary academic field) but on the truth of being as beauty reveals it. In other words, our commitment is more broadly to eternal presence, inflections of a wisdom both in and beyond nature, of which beauty surely plays an important role. The way in which this study could unerringly be deemed a theological aesthetics is in its emphasis on an analogical and participatory metaphysics, a field of Christian Platonic theology which supposes sapiential modes of knowing (correspondence, fittingness, analogy) as the way we not only know and feel the wholeness and more-ness of a great piece of music or painting but as the way we know faces, forms—anything at all that can be known and named. Our first principles are inductive, as Aristotle knew, but beyond Aristotle, these are not just stalwart facts externally presented to us (as in the principle of noncontradiction) but inductions—encountered, aesthetic—that our hearts are prepared for, that our hearts can measure. We do not see the world as a scrambled Pollock painting but as one with mediatory lines and boundaries; we know harmonies, we know balance; we know the fitting and unfitting; we know everything as bearing similarity and difference, all the way to the quick of the heart which measures the event of every thought and action as against an ineffable ideal that renders judgement (and thus thought) possible at all.⁴² We do not know the world through

⁴¹ *TNO* 3:131, 4:310.

⁴² Giussani (2005), 9.

discursive means, ultimately, but through analogy, and thus through its communication of the good in beauty.

An analogical metaphysics is the expertise claimed in this work; I do not claim expertise in any of the central figures presented beyond Alexander himself. I have a general competency and comfort in the thought of Sergius Bulgakov, Michel Henry, Felix Ravaisson, Plato (et al.), but their work is not the central focus of my research; I draw on them only where they promise to magnify Alexander's metaphysical themes.

1.5 Methodology

Because my aim is to both present Alexander's principle ideas and apply further philosophical sophistication to them and to their implications, this study is both expository and constructive. While I will elucidate and follow the thread of Alexander's argument against mechanistic thinking in section two, I will also gloss his argument with a further historical account of its rise and locate mechanistic presuppositions still lingering in certain contemporary models. Likewise, I will devote a chapter to ideas proposed by the French Spiritualists to establish a pathway out of a mechanistic worldview and into an analogical one, providing a more philosophically rigorous foundation in which to ground Alexander's epistemology than Alexander himself offers in the inductive, empirical, appeal to one's intuitions and experiences of beauty in his "measure of the self." My efforts here will construct a foundation upon which we can argue for the wisdom of just such intuition and experience as a methodological starting point. Following sections will also straddle

this approach of exposition and constructive additions in ways obvious throughout the chapters.

My study is philosophical, in line with Alexander's hard-won Platonic sensibilities that do not pit philosophy as a discipline against theology but keep inquiry open to divine causes. In this way, one might call the approach one of natural theology. This genre or category can come off as disagreeable to certain modern philosophers who see speculation beyond the sensible or subjective as groundless (and thus anti-philosophical); and it can also prove distasteful to theologians who see it as running dangerously free of any hermeneutic control (with no special revelation to hedge its terrain). While section two will present an implicit critique of philosophies which deny a transcendent cause, this study does not ignore the Barthian warning that beauty—or general revelation—without Christ is no revelation at all. Indeed, beauty without Christ can only be but a shallow flourish of vitality moonlighting as a call of the good: celebrity, materialism, nationalism, and other pretty evils to which confused souls commit themselves.

Nevertheless, I do not take up an explicit Christocentric study in this dissertation. Firstly, I find this would put the study out of tune with Alexander's emphases. Secondly, there is an art and beauty—as well as an apologetic necessity—to the work of natural theology. We may need to see the world aright before we can plant the seed of faith in it. Christ cannot grow in a reality we assume dead and reducible to material-mechanical processes.⁴³ Indeed, the sort of Christs that do “grow” there tend to be the kind that incite

⁴³ This is not to deny the rejoinder (that a sound faith in Christ may spontaneously or gradually bring us to see the world aright) but only to defend our particular task as a legitimate apologetic orientation.

our loss of faith (Christs of profit, Christs of war, ego, vanity, and nationhood). Our research is not a Christological endeavour, but Christ is present throughout these chapters as something slowly emerging in our vision as the land of Ulro withdraws for a far more present sense of eternity. When Boris Pasternak was asked how Christianity figured in his work, the devout (if not always orthodox) poet answered that it was like a log on the fire: not the centrepiece of a novel or poem but there as its warmth and life. This attitude can also be applied to that of the natural theologian, and one not foreign to the tradition of Catholic theology. The first two-thirds of Thomas's *Summa Theologiae*, for instance, develop a natural theology; Eriugena's exquisite *Periphyseon* is a work of natural theology that glows with Christ's warmth, even if, by the end, Christ is mentioned far less than, say, Nyssa, Maximus, Dionysius, or Plato. One might note as well the more contemporary Jean-Louis Chretien who avoids the categories of "Christian philosophy," preferring his "philosophical vocabulary" to speak for itself, "[beating] in virtue of its being animated by the elsewhere."⁴⁴

A faith in Christ comes more readily in a world we experience as enchanted; the work of the natural theologian is to prepare the ground. This has been one of the underlying intentions in this dissertation, an intention not unlike Alexander's. The whole he intuited and pursued was not one he admitted a clear sense of, yet on he strove toward it, believing that architecture could establish some lost connection to God. A practicing Catholic, Alexander did not, however, concentrate this connection on Christ himself. Indeed, he was utterly ecumenical in his sensibilities, adamant that his work articulated something "true

⁴⁴ See Housset, foreword to Chretien (2024), 8.

within the canon of every religion.”⁴⁵ This, of course, chances to place his work within a perennial school that generalizes all religion beyond their own particularities, but it is possible to see a Christian ethic alive in it too: love is present in all of his work, whether in his theories of form or in his emphasis on a humane architecture for the sake of every soul who must inhabit a built space. In fact, to replace his illuminations of “life” or “livingness” with “love” wouldn’t be off the mark. Life is that which holds together and integrates all the parts, that brings each center into relationship with other centers. His ecumenical emphases seem a simple extension of this intuition toward wholeness, a subtle triumphalism that “love alone is credible” living deeply within his own intuitions, and at the roots of those of every great wisdom tradition.⁴⁶ Bearing this in mind, it comes perhaps as no surprise that Alexandrian metaphysics leans into a model of wisdom with kenotic love at its centre—a nascent Christological, trinitarian core—whose warmth we hope to stoke and extend across these pages.

⁴⁵ Alexander (2019). “Questions about the nature of God, the relation between God and our concepts of modern physics, the apparent disparities between the various views of God presented in different cultures and religions, were with me every day. For one or two decades, I also immersed myself in various forms of practice—Zen Buddhism, psychotherapy, private forms of meditation—to do what I could to sharpen and clear my mind. As a practicing Roman Catholic, I learned much from Christian mystics (especially *The Cloud of Unknowing*); Sufi saints (Mevlana, Ibn Arabi); Buddhist and Taoist writers (Chuang Tzu and Lao Tse, especially the *Tao Te Ching*); Zen poets (especially Bashō); south sea anthropologists Gregory Bateson, Ruth Benedict, and Jane Resture; the Sanskrit classical canon . . .”

⁴⁶ The phrase invokes Balthasar’s short and important work. See Balthasar (2024).

2. LIFE, CENTERS, AND THE PERSONAL: A PRELIMINARY DESCRIPTION OF ALEXANDER'S MAIN THEMES

2.1 Introduction

The following chapter serves as a further introduction to Christopher Alexander's work. In it, I will discuss and acquaint the reader with Alexander's principle themes in *The Nature of Order*, themes which will be central over the course of this study.

2.2 Life

As Christopher Alexander argues, the idea of order has been a central project of science for at least a century.⁴⁷ As a scientifically precise concept it "first entered physics as a by-product of thermodynamics, when the orderliness of molecules in a perfect gas was analyzed numerically by Ludwig Boltzmann in 1872 through the idea of entropy.... [But order] treated as a negative entropy is far too simple, and, for complex artistic cases, almost trivial." Yet a desire for order pervaded the physics of the time, eliding the reductive and para-scientific projects of the day. "[T]he hunger of the scientific community for *some* precise concept of order was so great that attempts to extend the notion of thermodynamic order to cover *all* order were made by many writers outside the field of physics."⁴⁸ Alexander lists some further proposals: the crystallographic order "defined by repetition," military or hierarchic order, complex patterns generated out of "morphological rules," a biological order "in which one system unfolds continuously to form another," or

⁴⁷ TNO 1:10.

⁴⁸ TNO 1:10.

David Bohm's theory in which "order types of many levels exist and are built out of hierarchies of progressively more complex order types."⁴⁹

What we ultimately have here, Alexander argues, is not so much a compulsion towards an ever refined, ever closer understanding of order but one in which we have falsely conceived of order entirely. "*None of this,*" he states, "*suggestive as it all is, is directly useful to a builder. Even the most advanced of these ideas is still not deep enough or concrete enough to give us practical help with architecture, where we actually try to create order every day.*"

The problem, as Alexander describes it, is that we have fashioned our understandings of order within a paradigm of mechanism in which even the artist, following the physicist, may think that by understanding a building or painting in its themes, dimensions, geometry, etc. he can simply transpose its character of beauty upon his own work. A mechanistic model, by virtue of its reductive qualities, results in an evacuation of two important aspects from reality: first, there is an evacuation of the "I" in nature. The "I" remains our experience, but it no longer corresponds to the "*picture we have of how things are.*" Alexander asks, "How can you make something which has no 'I' in it, when the whole process of making anything comes *from* the 'I'?"⁵⁰ The second evacuation is of *value*, which falls away as mere opinion against the physically demonstrable facts of mechanism. For Alexander, both these evacuations occur in the wake of Descartes's hypothesis that the best way to know how a thing works is to treat it as

⁴⁹ TNO 1:10.

⁵⁰ TNO 1:10.

a machine—in a literal sense as dead (a method Descartes arguably only ever meant as a heuristic). In a world understood as machine, there is no space for value. Where parts make the wholes, quality—as always pertaining to the overall structure of the latter—has no proper ontological place. Nor can we see ourselves reflected in a world so utterly impersonal, so insurmountably other, in order to claim with the artist or poet that the order of the real has to do with the extension of the I or self into reality.

We may put it in other words and argue, with the “deeper wisdom of common sense,” that what mechanism lacks is the experience of *life*—an experience of the *whole* of a thing, by which Alexander means not only buildings but “flowers, puddles, waterfalls, bridges, mountains, moons, the earth, the tides, the waves of the ocean, paintings, the rooms in which we live, the clothes we wear.”⁵¹ For too long, Alexander argues, ornament has been severed from function. In the Cartesian style, only the *function* occurs to us, because function can be understood rationally, whereas ornament cannot. “One is serious, the other frivolous.” But it is, of course, the two together, as a whole, that make an appeal to the whole of the person: to the mind and to the heart. “Can we create a picture of matter,” Alexander asks, “which will one day become adequate to give us a world not only profound in its mechanical success, but which also explains our nature, our agony, our relationship to matter, and the existence of the soul?”⁵²

In the first chapter of volume one, Alexander broaches the theme of *life* in the context of architecture. “It is widely agreed today that we want to build towns and

⁵¹ *TNO* 1:18 & 23.

⁵² *TNO* 4:319.

buildings which play their roles in the preservation and continuation of life on earth.”

Architecture does not merely transpose human ideas into stone, wood, and concrete but ideally takes into account the surrounding space out of which it emerges. It is the continuity of an aesthetic, the upholding and unfolding of life in a setting. “Many people now define their aim to be the creation of towns and buildings which are part of the living fabric of the earth and which are themselves, in short, alive.” But what precisely—beyond the opposite of mechanism—is meant by “life”?⁵³

Here, suddenly, we find ourselves up against a very unusual scientific problem.

Within biological sciences as they stand at the end of the 20th century, we do not have a useful, or precise, or adequate definition of “life.” In traditional 20th century scientific orthodoxy, life—or, to be more precise, a living system—has been defined as a special kind of mechanism. The word “life” has been applied only to a certain limited system of phenomena. We shall see... that this conception of things needs to be changed.⁵⁴

What are the boundaries to what we call life? What in particular animates a living thing? To define it as a special kind of mechanism proves insufficient, for what we would call the mechanism (the body) does not seem to be identical to the life as such that animates it. “Life is not a limited mechanical concept which applies to self-reproducing biological

⁵³ *TNO* 1:23.

⁵⁴ *TNO* 1:23.

machines. It is a quality which inheres in space itself, and applies to every brick, every stone, every person, every physical structure of any kind at all, that appears in space. Each thing has its life.”⁵⁵

For Alexander, we do better to “locate” this quality of life in seeking out the interactions between the human and nature (and where perhaps these categories are confounded, at least in their contemporary use) in “feeling,” and in particular, a feeling of the “livingness” of things.

Alexander lists some examples of this feeling: in a wave, in marble, in gold, “a fire which is not organically alive, [yet] *feels* alive.”⁵⁶ One piece of wood communicates greater life than another, which feels dead. Even in an organic, biologically living being we can feel degrees of life. He offers a photo of a cheetah, in full stride, speeding across the savanna, which is not *just* alive, but “feels *intensely* alive.”⁵⁷ The same can be said of human beings, a drooping personality can communicate to us a lower degree of life in comparison to someone in a more vibrant mood. In different human events, too, we experience this feeling. “Look at your favourite bar: a place which comes to life at night, where some special life exists, seedy, raucous. The bar. The night club. A fish-pond there. A garden seat. Shaking hands. A night at the ballet.”⁵⁸ A quality of “functional liberation” in these events and spaces follow the release of “free inner spirit” which creates not so much an

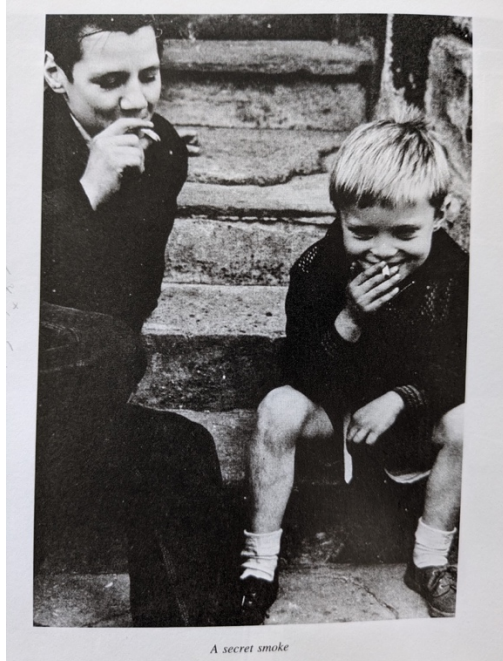
⁵⁵ TNO 1:23.

⁵⁶ TNO 1:32.

⁵⁷ TNO 1:33.

⁵⁸ TNO 1:36.

improper use of setting, but an *overflow* of functionality—the unnecessary, gratuitous, and unexpected become the source of life.



Examples of “functional liberation”: steps upon which musicians sit to play jazz; a stoop used for a “secret smoke.”

Like biological life, [the living event] has a typical appearance. It is rather rough, not manicured. It is comfortable, rough around the edges, smooth as if it has been rubbed together. This kind of life is the ordinary life which is not connected to high art or fashion. It has nothing to do with images. It occurs most deeply when things are simply going well, when we are having a good time, or when we are experiencing joy or sorrow—when we experience the real.⁵⁹

There is an “ordinary” quality to these events, they do not need to be particularly remarkable, yet the freedom “which arises when life is at its most spiritual, and most ordinary, arises just when we are ‘drunk in God,’ as the Sufis say—most blithe and most unfettered.” Our experience of the real is simultaneous with our ability to face it in risk and vulnerability, dropping the constraints put upon us by “affectations, concepts, and ideas.” Even drunkenness itself—if not pushed to excess—may induce a healthy abandonment of inhibition that “releases our ability to see the truth more clearly. *In vino veritas.*”⁶⁰

Life for Alexander arises in buildings, in painting, in human events and situations; it exists as a quality “clearly not the same as the biological life we recognize in organisms” but surely not *not* this life.⁶¹ The life Alexander speaks of is more generic, a “larger idea,” one that past times have had a deeper intuition about, or “feeling” for, but which the 20th century in particular has lost. This “melted unity,” “this deepest experience of order that we experience with wonder,” is an order which certainly shines through in some of the 20th

⁵⁹ TNO 1:38.

⁶⁰ TNO 1:38.

⁶¹ TNO 1:60.

century's better moments, but the inhibitions on ornament—with its Cartesian focus on functionality—did not, for example, produce the subtlety of the Shah mosque in Isfahan, Iran, where, as Alexander states, “the outward perfection... hides the drunkenness, the careless abandon in the individual bits of tilework that allowed the artist, drunk in self, to make a free thing in the flowers he put in the glaze.”⁶² In the modernist emphasis of the 20th century which suppressed this spirit toward life, the livingness of things comes most to life in a “comfortable ordinariness.” In our current situation, Alexander remarks,

comfortable ordinariness and lack of “image” quality are the main things which produce life.... A man in his shirtsleeves, a café which is a converted gas station, paving which is made to last a long time but also to honor small plants without being precious, machines in a workshop, the decoration on a giant trucking rig, a hammock which is not too new, a photograph pinned to the wall above a person's desk, paint on part of a shop window... the loading dock of a warehouse where two people are eating a sandwich during their lunch break in the sun.⁶³

It is perhaps more toward these instances that we must look for life than our current (intended) aesthetic environment, for it is in these that the *structure* or *order* of life are best expressed: in these “thousands of manifestations” our ordinary, everyday lives coincide with the structures of truly living and moving art.

⁶² TNO 1:60.

⁶³ TNO 1:57.

The strange result of the modern emphasis on functionality—moving within a presupposition of matter as mechanical, valueless, and bereft of the self—was not one in which appearances did not matter *per se* but where appearances in some sense developed a compulsion toward perfection, or perfection of a kind: the perfect, geometric manifestation of the economic and functional. Beauty became the expression of perfect economy, of flawless shapes expressing right angles and straight lines—a beauty of the smooth and straight, each edge and corner exhausted by a communication of its total efficiency. But the structure that all living things share, or one among them, Alexander argues, is *imperfection*: Why, for instance, do we find a more direct connection to life, or the “direct voice of the heart,” in, say, a Bangkok slum—stripped of prettiness and ornament, perhaps, but not of “functional liberation” and the overflow of free spirit—than in a quirky yet frigid postmodern home? This aspect of imperfection finds a description, for instance, in “wabi-to-sabi[,]... the Japanese concept of beauty which is best translated as ‘rusty beauty.’” “These things are all beautiful, but they are all damaged. Life itself is damaged, and nothing which is perfect can be truly alive.”⁶⁴

We might pause here an instant to look at the Japanese concept Alexander puts to use. *Wabi sabi*, one of many terms in Japanese aesthetics, is the portmanteau of two words, both of which carry similar meaning. Donald Richie writes, “Whereas *sabishi* refers primarily to [an] emotional state [of loneliness], *wabishi* is used most often to describe the actual [lonely or desolate] conditions under which one lives.”⁶⁵ In other words, *sabi* speaks

⁶⁴ TNO 1:60.

⁶⁵ TNO 1:426.

more to an actual feeling of loneliness, yet this is not a loneliness of (complete) despair in that a sweetness, or vitality, still lingers, a peculiar beauty in which we find “a lyric melancholy,” a livingness that can save even while it hurts. The poet Saigyó writes,

*A mountain village
Where there is not even hope
Of a visitor.
If not for the loneliness,
How painful life here would be.*⁶⁶

On the other hand, *wabi* speaks more to the condition, say, of that mountain village—as opposed to the heart of the villager. It is the hut upon a yonder shore, just visible through the mist, not the inhabitant who lives, broods, and longs for his lost beloved there. Yet the effect is in many ways one and the same, for he or she who lyrically captures such loneliness and desolation in the landscape invokes it in the heart of the reader or observer. The two words, therefore, offer more precise coordinates of the response, as somewhere between the beholder and the beheld, or a reciprocity extending both ways.

In volume four of *Nature of Order*, we see this theme of *wabi sabi* surface, at least implicitly, in a discussion of sadness as a feature of beauty. “Unity ties everything together—including joy, happiness and laughter, but also including loss, death, and betrayal. A thing which truly has unity partakes of everything. And through that everything, there must be sadness.”⁶⁷ In this light, there can be no unity or wholeness, and therefore no true life, if there is no sadness. Something will always be missing without a “quality of

⁶⁶ Richie (2007), 28.

⁶⁷ *TNO* 4:242.

tears.” This quality might arise in the wear and tear of a textile, or in the fragility of a sombre melody. It involves us in the “messiness and goodness of everyday life” but in spite of this messiness, or this sadness, or indeed *because of it*, beauty coheres.

The unity is not merely a unity in the surface, in the appearance of things—it is a unity of the most fundamental kind, which goes to the raw reality and which has, when it occurs, a highly unexpected, sometimes rambling, sometimes ferocious, sometimes friendly, even sometimes absurdly crude or comfortable character.⁶⁸

Alexander offers Basho’s well-known poem:

*Sadder and much more
Forlorn even than at Suma
Is autumn on this shore.*

There is a depth to life as order that is not mechanical; there is an “innocent and simple quality... a truth, an easiness.”⁶⁹ The damaged quality of things, the “becoming rusty” or “blooming of age” of that which bears *wabi sabi*, or this quality of tears, speaks to a structure that is, again, common to everything which bears life, from the highest in fine art to the comfortable ordinariness of the everyday. Leonard Koren even suggests that this rustiness is precisely what certain fashions and music of the youth—rock, grunge, emo—have sought to express over against a spiritually desolate culture (an idea that might urge critics like Allan Bloom or Roger Scruton to a deeper consideration of the merits of these

⁶⁸ TNO 4:258.

⁶⁹ TNO 1:60.

genres, beyond a reduction to a tribal or sexual vitalism).⁷⁰ Indeed, for Alexander, this quality of tears, or beauty fully realized, is latent in all space, all matter. One might even frame Alexander's project as seeking precisely to bring something resembling the traditionally Japanese perception of aesthetic nuance to expression in a Western register: to see the small subtleties that distinguish *hosomi* from *aware*, *kurai* from *okashi*, and indeed *wabi* from *sabi*, albeit going in a direction in which Japanese aesthetics has traditionally not felt the need: finding the metaphysical basis for one's responses in a reflection, in the "I"-like character of things, in a "melting unity" that reveals the great metaphysical "I" which is the fundamental, personal structure, or order, to each corner of space.

2.3 Centers

When we respond to life in a thing, what we are experiencing, again, is an aesthetic response, but it appears to go beyond mere aestheticism for Alexander—for what he is ultimately arguing is that there *is actual life* in a building or a stone, not exactly identical with biological life but on a spectrum, partaking of the same "stuff." For Alexander, we are encountering an empirical reality with a foot in the metaphysical—or, we might say, we are having an empirical encounter with the metaphysical that does not prescind the physically quantifiable elements of that reality. An eternal structure reveals itself—the eternal Self reveals itself. But without pursuing that line just yet in all its many deeper implications, we must still draw out these physical realities.

⁷⁰ Koren (2008), 51. On a critique of rock music, see Bloom (1987), 68-81.

Life, for Alexander, emerges in *centers*.⁷¹ This might strike one as a little awkward at first, reducing our experience to particular geometrical points in an item—privileging parts in a composition rather than a thing’s wholeness. But the way in which Alexander develops the term is one which he hopes better expresses the mysterious life of wholes. Indeed, each center *is* a whole related to further centers both exterior and interior to itself.

If I want to be accurate about a whole, it is natural for me to ask where that whole starts and stops. Suppose, for example, I am talking about a fishpond, and want to call it a whole. To be accurate about it in a mathematical theory, I want to be able to draw a precise boundary around this whole, and say for each point in space whether it is part of this set of points or not. But this is very hard to do. Obviously the water is part of the fishpond. What about the concrete it is made of, or the clay under the ground? How deep does it go? Do I include the air which is just above the pond? Is that part of the pond? What about the pipes bringing in the water? These are uncomfortable questions, and they are not trivial. There is no *natural way* to draw a boundary around the pond which gets just the right things, and leaves out just the right things.⁷²

But does this leave the whole as a nebulous thing, an empty concept, and reality in a sort of equivocal, anti-substantial chaos?

⁷¹ To remain consistent with Alexander, I will defer to the American English spelling “centers” whenever I refer to this theme.

⁷² *TNO* 1:84.

In a very rigid way of thinking, this would make it seem that the pond does not exist as a whole. Obviously this is the wrong conclusion. The pond does exist. Our trouble is that we don't know how to define it exactly. But the trouble comes in referring to it as a "whole."⁷³

For Alexander, "whole" denotes a limit, an outer boundary in which that particular whole terminates. On the other hand, "center" already expresses the equal primacy of relation in which all "wholes" already partake *qua* wholes. "If I call [a kitchen sink] a center [rather than a whole], it already tells me something extra.... It makes the sink feel more like a thing which radiates out, extends beyond its own boundaries, and takes part in the kitchen as a whole."⁷⁴

While "whole" as a term may suggest an outer boundary, a limit in which that particular whole terminates, "center" expresses the primacy of relation in which wholes already partake, therefore suggesting less determinate boundaries (a "misty space" in Nicholas of Cusa's description)⁷⁵ which establishes rather than compromises a center's unique identity (or life). Instead of a language of wholes and parts, Alexander offers a coherent language of centers wherein each center is itself a part as well as a whole.

⁷³ *TNO* 1:84.

⁷⁴ *TNO* 1:85.

⁷⁵ Hoff (2013).

Adding to this, importantly, he also argues that the structure suggested is not an atomism in which parts precede the whole, or in which “wholes are made of parts.”⁷⁶ Rather, “it is the wholeness which *creates* its parts.... Parts are created *by* the wholeness. They settle out from the wholeness, and are created by all of it. This is analogous to the way a whirlpool is created in a stream. The stream whirls, and the centers we see as the whirling (vortex, streamlines, etc.) are created by the larger configuration of banks, rocks, and so forth. So, within this whirling, we observe a whirlpool which has formed.”⁷⁷

It is because parts are always “induced” by the wholeness of a preceding structure—rather than the contrary—that we never have identical repetition (as in the mechanistic Cartesian approach which views wholes as comprised of, and reducible to, atomic structures).

The sub-wholes—or centers—are induced within the wholeness, and come *from* the wholeness. And because of this, the parts are adapted and modified, in shape and size, by their position within the whole. The petals of a flower are not identical. They are similar, but each one is slightly different according to its position and history in the whole. When parts repeat we never have identical repetition. Instead we have repeated parts as centers which are changing and variable according to their position in the whole, as they repeat within the whole.⁷⁸

⁷⁶ TNO 1:86.

⁷⁷ TNO 86-87.

⁷⁸ TNO 1:87.

In other words, we may say that the “flower is not made *from* petals” but that the “petals are made from their role and position in the flower.”⁷⁹ Each center comes forth within a context that secures its particular identity, just as each center provides a context, or is a context, which induces other centers or identities.

But if parts emerge from wholeness, what precisely do we mean by wholeness? Can it be a thing at all, given the “misty space” that marks its boundaries? “My answer is that the wholeness is not merely a way of focusing on the gestalt of the thing, but is instead a real structure, an actual ‘thing’ in itself. It is a structure which exists in the world that includes what we intuitively perceive as the gestalt, the overview, the *broad* nature of a thing. It is the source of the coherence which exists in any part of the world.” Alexander describes a mysterious “coherence” which communicates itself from wholes:

The wholeness gets its strength from the coherent spatial centers of which it is made. If there are roses around a front door of a cottage, that is what you remember; if there is a pair of ducks in the garden... that is what you remember.... It is these entities or centers which mark something as what it is, which make it memorable, remarkable.”⁸⁰

What strikes us about a whole, or center, in other words, and what moves us to call it a whole or center, is less a bounded quantity than a *quality* of coherence, the flavour or

⁷⁹ *TNO* 1:87-88.

⁸⁰ *TNO* 1:90.

“character” of a thing, something which emerges as an “inner thing,” deeper than the features (or parts) existing “over and above the features... not even dependent on these features.”⁸¹ The four different self-portraits rendered by Matisse (below) serve as an illustration to make this point. From portrait to portrait, the features on Matisse’s face change, sometimes drastically, and yet it is always the same face. The character, or the wholeness, is elusive: “It is the overall vector, the overall qualitative structure, the overall field effect of the face. It is a global pattern-like aspect of the face which is the same in all four pictures,” which cannot be constituted explicitly; it arrives from “the qualitative impact of the phenomenon.” In this sense, any particular, to be known as a particular, must shine with a character—or a “personality”—that carves it out, that foregrounds or centers it.

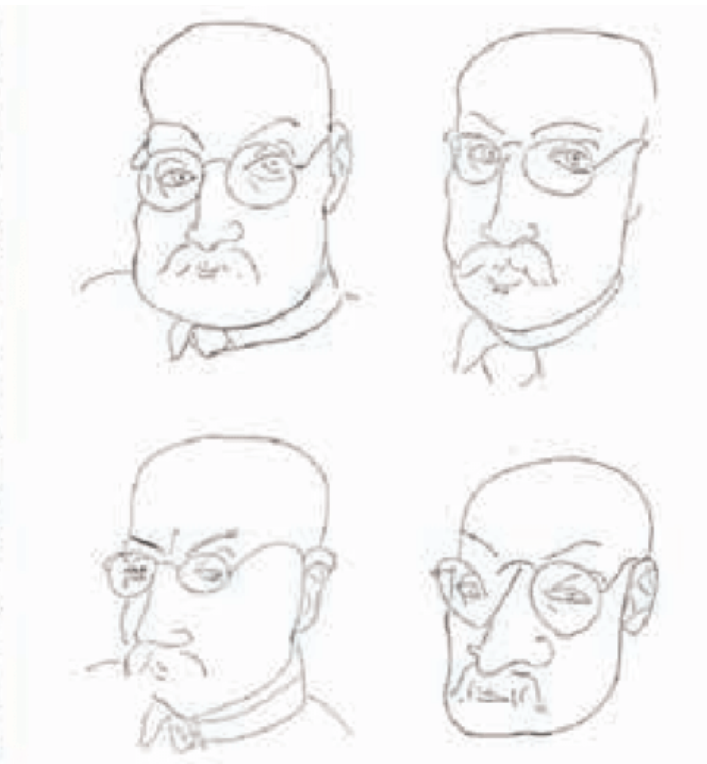
Alexander, however, makes some suggestions as to where we might intuit the wholeness of Matisse’s face in these self-portraits:

How should I describe this wholeness? It is the bald head with the eyes and with the eyes spreading concentrating downward, coming to a point somewhere around the mouth. Also the lower part, mustache, jaw, etc., somehow spreads outward again. We do not have any easy language for describing this overall structure. But it is indeed this overall structure of the centers that is responsible for the wholeness[,]... the *same* in all four drawings, [as well as] in the photo of Matisse.⁸²

⁸¹ TNO 1:97.

⁸² TNO 1:98.

Alexander does find a common “feature” in each of the self-portraits—a certain “concentration down” that “spreads out again,” which marks a strong center. Can we thus *reduce* the face to this “feature,” a point to pivot around as we would a big nose or a thin mouth? No, because it is a dynamic movement of smaller centers that bring us to this stronger center around the mouth; it is the movement of the whole itself, a pulsating unity of centers—as much the eyes as the nose as the mustache, as well as the empty spaces (cheeks and forehead) which themselves comprise necessary centers. A face is not an oval which contains shapes but a *field of centers*. One who cannot intuit that field, character, or whole fails to get it right.



Another error often made, Alexander notes, is that of adding too many centers to a work of art, in the view that the more complicated the texture, the more extravagant the whole. But this doesn't necessarily result in cohesion—in greater wholeness. For a building—as well as for other fine arts—increasing the character of a work is not a matter of addition but of transformation: one must intensify the field of centers with whatever brings it more centeredness.⁸³ It is about intensities of participation at the qualitative level, ones which result from intuiting the field of centers, and therefore intuiting the range of possibilities (and impossibilities) within that range.

Significantly, Alexander sees this function of centers as the “underlying substrate of all life in space,” as applicable to a building or painting as to the cultural and social aspects of human life, and even to each minute event of human experience. Alexander uses different images to address this: children on a New York City sidewalk, splashing and playing in open fire hydrants; two people sitting down in a quiet enclosure, sharing deep or superficial opinions; wallpaper arabesques in a Middle Eastern interior; sunbeams breaking in through the windows of the Hagia Sophia. The whole in each example spirals out of a locus of possibilities available to that time and place; what is manifested spatially emerges within a character, a field of centers, in which each center partakes and is intensified.

Centers are not merely a psychological phenomenon which satisfy some deep cognitive structure of the mind. On the contrary, Alexander argues, it is precisely this

⁸³ *TNO* 1:129.

structure of living centers that forms all of natural life.⁸⁴ We have therefore developed an understanding of living wholes or living centers at the source of which “life,” as Alexander describes it—extending the term beyond the bounds of the merely biological—occurs. The greater the intensity in a field of centers, the greater the life communicated by its character. Notably, there is a sort of chiastic relationship between these terms—life, centers—that mark, if not a circularity, a tautology; for if a center is dead, then it is not really a center at all. It vanishes, or dis-coheres, thus threatening greater incoherence onto the surrounding centers, in which case it would not be living, or have life. If the quality of coherence dissolves, so does our ability to know it. In some sense, thus, to even be known is to be a center, whether of weak or strong intensity. The term “living center” is therefore a redundancy but also a necessary reminder, for *living* is what a center *does*; it both participates in life, and gives it; it relies upon a greater locus than itself to unfold, and is itself a locus which allows other centers, or loci, to unfold.

By “life,” we are therefore not speaking of the biological or animate *per se*—as in organisms constituted of an integrative animating principle—but neither are we suggesting an alternative or separate category to biology, for we are not speaking of “life” by analogy to something else (i.e., biological life).⁸⁵ Rather, we’re speaking of a more generic term in which *bios* expresses life to a particular degree; or we might say, there is, upon this

⁸⁴ TNO 1:245.

⁸⁵ In this study, I do not employ in any important way the Aristotelian terms for life: *bios* and *zoe*. The latter, for Hannah Arendt, supposes the cyclical motor of life, as in metabolic life, whereas the former connotes the arch of linear life (as in a bio-graphy). *Zoe* is a general term with no plural form, whereas *bios* is used by either Plato or Aristotle to denote a particular life—for instance the life (*bios*) of pleasure, or the life (*bios*) of knowledge (e.g. the *Philebus*). See Agamben (1998), 1; Arendt (1998), 7. Similar to Plotinus, our study relates life to *nous*, or, with Bulgakov, to *Sophia*, as we will discuss below.

spectrum of life, both “animate life” and “inanimate life.” For Alexander, life broadly speaking may be defined as nature’s “unifying activity,” what Japanese philosopher and biologist Kinji Imanishi (an influence on Alexander) calls the “self of nature”⁸⁶: “We must teach... that nature is not matter, it is a living thing; it is the colossal maternal body, the giant, the behemoth within which we, along with all the other myriad creatures, have always been nourished.”⁸⁷

But one question we have yet to answer in an aesthetics of these complementary terms is the epistemological one: How do we know these things have *life*? What affords knowledge of this phenomenon? If life is simultaneous with coherency—if a center has to be living to be known—is this a strict question of the intellect, of the mind’s coordination of a particular within a universal species? But if there is also an affectivity at play, if to know something is to know its *character* or peculiar *flavour*—that which marks it out from the rest of its surroundings and its universal kind—then we also seem to be asserting a primacy of the aesthetic (and therefore an affective-intellective) sense. To explain our apprehension, Alexander speaks of the “measure of the self,” a theory which could easily describe an epistemological subjectivism. However, it is within metaphysics that Alexander seeks to ground this “numinous sense,” as we will see.⁸⁸

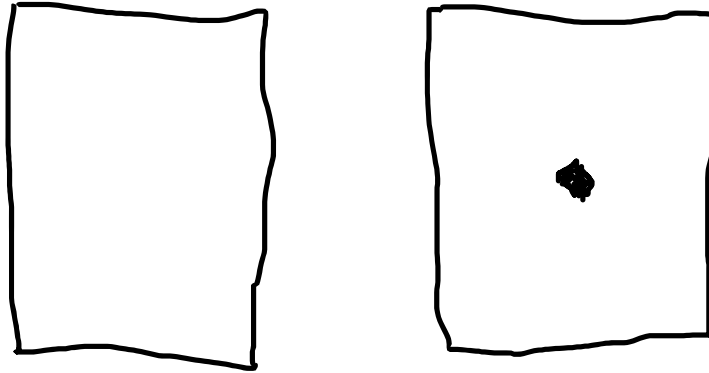
⁸⁶ Imanishi (2002). See intro.

⁸⁷ Imanishi (1984), 366-367.

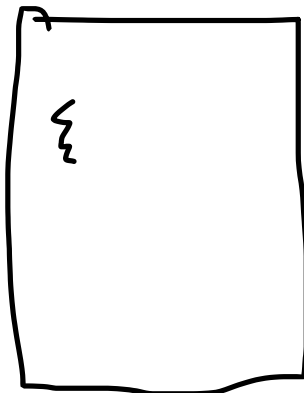
⁸⁸ *TNO* 4:63.

2.4 The Personal

Let us recapitulate some of the points made so far, as well as invite in another central term—“personal”—into Alexander’s account of order. In the following example, he offers us two objects:



One is a blank piece of paper; the other one, nearly identical with the exception of a small diamond drawn in the center. Alexander suggests the latter is more “personal” than the blank piece. Of course, this isn’t immediately obvious: one might quickly argue that *anything* added to a blank page increases its personality. But Alexander then adds a similar image with a careless squiggle etched at random:..



For Alexander, what this latter example shows is that not only the page with a diamond added in the center but *also* the blank page express personality on a higher level than one in which a random squiggle is drawn aimlessly. Why is this so? How might we explain the phenomenon? “Why do I say that the one with the diamond has the most *personal* feeling in it?”⁸⁹

Alexander offers a couple casual thought experiments. “Suppose,” he says, “I ask you to tell me which of the three you would pick as a picture of your wholesome self, or your own soul. I think you will pick the right-hand one first, the middle one second, and the left-hand one third.” But why, even were one to agree, does this experiment qualify the description of *personal*?

Suppose you are with a person you love very much. Imagine you are comfortable, happy, loving, and childish with this person—also vulnerable, and not afraid of being vulnerable. Perhaps you may even feel like a little five year old in the degree of your trust and vulnerability.... Imagine now that you want simply to give one of these pieces of paper to this person as a funny, special present, as an expression of your feeling—a tiny gift, which will flutter away in the wind five minutes later, but which you want to give in such a way as to share your inner secret with this person. Which of the three will you give? Most likely, you will give the one on the right. The one with

⁸⁹ TNO 1:306.

the diamond feels valuable, feels worth giving, feels the most intimate of the three.⁹⁰

The latter draws us closer toward a sense of intimacy than the other two images (the blank page and the squiggle)—toward an intimacy that speaks more to our hearts, which is not necessarily beautiful in any sublime sense of the word but is nevertheless personal.

Whether it is *like* us or whether it *speaks* to us (any deliberately drawn center is, after all, a communication)⁹¹, or indeed both, it is thereby in some sense personal. One might disagree, of course, and while Alexander concedes this point, he nevertheless has no doubt that the majority of people, given the choice, would see their own souls reflected in the right-hand page (at least when given the choice between it and the other two).⁹²

On a phenomenological level, our experience of centers produces something of this effect. For Alexander, a center represents a whole; or more specifically, a whole is a mysterious and irreducible activity of centers juxtaposed and interrelated. An apple tree, for instance, is a whole of related centers—the branch is a center, the trunk, the fruit, each leaf. A plum in the foliage is a center, as well as the trees around it within the forest, which emerges, too, as a center. Even a small diamond etched on a piece of paper draws us into

⁹⁰ *TNO* 1:306.

⁹¹ We are ineluctably beasts of sign and sacrament, as poet and artist David Jones argues, discussing prehistoric man. “The merest rough, bungled incision or the daubed on red ochre, the most elementary ‘cup-markings’ on the stone at a burial-site... with the barest minimum of skill and without any, or much, shining out of the *splendor formae*, we would appear already to be in the domain of sign (sacrament), of anamnesis, of anathemata.” Jones (1959), 156.

⁹² Alexander’s work *The Nature of Order* is full of surveys conducted toward his point that the aesthetic dimension of architecture is not relativistic, but reveals an objective truth. *TNO* 1:316-324.

a yet deeper center, the subtle one without which the diamond could not emerge. There is a fertility and dynamism in the life of centers—or in the “life” that centers themselves produce—one that surprises us into a further unfolding, an intensification that sprawls out not only spatially but semantically.

As an architect, Alexander concerns himself with a “field of centers” that will produce wholes or “living structures” in his design, not only within the building itself but in relation to the centers in the environment within which the structure will be situated. Of course, not all centers relate helpfully to one another: some deaden the personal effect; some intensify it. Whether a trellis brings a sense of calm to the bay outside or disturbs its beauty—there is no theoretical way to entirely determine this beyond the simple criterion of “life” which Alexander applies with a simple methodology: Does A *with* B or A *without* B bring more “life” to a setting?

For any given center, this quality of life comes about as a result of cooperation between the other living centers at several scales, which surround it, contain it, and appear within it. The degree of life any one center has depends directly on the degrees of life that appear in its associated centers at these different scales. In short, the life of any given entity depends on the extent to which that entity had unfolded from its own previous wholeness, and from the wholeness of its surroundings.⁹³

⁹³ Alexander (2016).

It is by this criterion of life, captured by varying degrees in either animate or inanimate things, that Alexander calls things “personal.” The light hitting a bench at just the right angle has a certain degree of life in it. So does a painting. So does a person. Even our paper with the random squiggle evinces a degree of life higher than, say, a piece of broken plastic (though this depends on which piece).

Life is an important and central term for Alexander, albeit “personal” speaks to a further degree of what precisely this “life” is at a deeper level—namely, that level which more suggestively implicates us in the effect we witness.

For Alexander, our recognition of life in things is not a neutral recognition but one of “personal feeling.” “As the centers deepen, the personal feeling of the structure increases. If its personal feeling does not increase, its structure is not really getting deeper. Precisely this component is its extraordinary property.”⁹⁴ Beyond a neutral recognition of life, this interpretation of life in things depends upon a personal feeling of happiness—we are somehow happier in the presence of a deep wholeness. Rather than stripping this down to a vulgar anthropomorphism, Alexander shifts it in the other direction. What we see in buildings that invoke the personal is not a projection but a particular “extraordinary property”: the building becomes, like a wave, like a cloud, like anything intensively alive, composed of “person stuff.” We perceive this property when, for instance, a doorway, a house, an outdoor place “is composed entirely of entities that are themselves whole and

⁹⁴ *TNO* 1:308.

entire, and which—each one of them—make us feel whole and entire.”⁹⁵ Personal feeling is “connected to order and life.”⁹⁶

[It] is a mobilization in which my vulnerable inner self becomes connected to the world. It increases my feeling of connection and participation in all things. It is feeling, not emotion. It does not—directly—have to do with happiness, or sadness, or anger.... Rather, it is the feeling of being part of the ocean, part of the sky, part of the asphalt on the road.... Thus the personal nature of order appears in nature as much as in a building and artifacts. The waves... are not just beautiful. The wild rage and beauty that is in them is *personal* in the same sense, and has feeling. It is personal, even when it occurs in nature, because somehow it awakens “person-stuff”; we may even sense that it is made of person-stuff, and that it connects with the person-stuff in us. To understand order, we must understand that it is profoundly like *this*. Life is the person-stuff. Recognizing this life in things is equivalent to saying, “The universe is made of person-stuff. I always thought it was made of machine-stuff, but now I see that it is not.”⁹⁷

For Alexander, the personal appears to us in “feeling”—not, importantly, in emotion (or not at least reducible to *just* emotion) but in feeling *like*, and in feeling *drawn to*, something else, a true communion between ourselves and things, a communion which

⁹⁵ TNO 1:308.

⁹⁶ TNO 1:308.

⁹⁷ TNO 1:308-9.

sees into persons and nonpersons alike a personal substratum so that in the wild raging wave what is truly *felt* or *known* is the “personal matter of the universe, reaching its form in us.” We might too put this in the context of the East, in Taoism or Ch’an Buddhism, in which the meditative “empty mind” discovers, at its most intensive depths, a mirroring in which we reflect the world and discover that the limits of interiority and exteriority are not so clear—in the Hindu teaching, *tat tvam asi* (“thou art that”)⁹⁸. Alexander’s suggestion also comes quite close to Aristotle’s epistemology in which the immaterial forms that make all things knowable (phantasms) *really* commune with our knowledge of them (agent intellects), paired with a (Platonic) like-knows-like structure⁹⁹ bearing upon the actual ontology of things themselves; the personal is something like the *arkos* of reality (the unifying “stuff”) that corresponds to our knowledge of it—unlike, say, the impersonal *apeiron* or *atom*. It very suggestively evokes, too, the hexameral structure of Genesis, in which all things find their summit or recapitulation in the human person, herself an image of her Creator, so that we have an order of hierarchy in which all things participate in a higher perfection, which is always a higher perfection *in personality*.¹⁰⁰

This “mirroring” trope will be explored further in the following chapters, but we will take it for granted as central here that the vastness or intensity or even magic of the world,

⁹⁸ Repeated throughout the sixth chapter of the *Chandogya Upanishad* in its lesson on the relationship of atman (the self) to brahman (the supreme reality).

⁹⁹ *TNO* 1:308. “[Even] though we... recognize wholeness as a structure which exists ‘out there,’ we learn that it is also a real unity which exists ‘in here,’ in each person’s heart.”

¹⁰⁰ Pierre Teilhard de Chardin makes this principle central in his evolutionary philosophy. For Teilhard, the opposite of entropy is the person—no other entity offers the coherency, complexity, and integrative capacity. The universe itself, if it is principally entropic (which would be absurd), thus supposes a principle of personality toward which all things move and are teleologically ordered. Teilhard de Chardin (1969).

its “person-stuff,” is encountered and *known* precisely because its discovery corresponds to a vastness, intensity, or magic that comes to life within ourselves—that makes us “whole and entire.” We describe a beautiful wave—whether in Hokusai’s painting, for instance, or in a wave seen from the beach—as composed of person-stuff not because noses and arms float around in it, but because something of the mystery of the beauty within things accentuates a mystery within us.

What makes Alexander’s theoretical work on design and architecture—on light and shadow and wholes and centers—so enlightening is that it is not a treatise on beauty as such, on beauty as some universal abstraction all architects must grope toward (abstractions we increasingly make new abstract rubrics for), but a universal present in the intimate particularity of each person. What Alexander seems to seek out is a particular condition for beauty, which, by moving it closer toward the heart of each individual, to what he or she considers personal, appears to also bring beauty toward greater consensus. What is beautiful is so because it *is personal*. For Alexander, what is beautiful to me has a good chance of being beautiful to you, once we apply this contemplative measure.

For three hundred years our mechanistic world view has disconnected us from our selves. We have a picture of the universe that is powerful and apparently accurate, but no clear sense how we, our own selves, enter into this picture.... We have a disconnected vision of reality, which seems secure, which seems strong and objective—but which leaves *me* out. My experience of self, my own actual person, my existence as I experience it every day is not part of the “objective” world picture.

So, in my daily encounter with the world, I have to make do with a world-picture that fails to connect me to the world. I flail around in it and struggle.¹⁰¹

Alienating nature from human interiority, the egocentric subjectivity creates the condition in which there is no longer a place for the I to cogitate in any purposeful way. There is an ultimate futility at the heart of every opinion, statement of taste, or affirmation of truth. In Alexander's theory, however, he repairs this vision with a sense of correspondence between the mind and what is known; the phenomenon of life which arises in our environment supposes a symmetry, or a reflection, in the relation between knower and known. As the world outside us is made whole and entire, so are we. Alexander offers a slate of further pictorial examples to make this point, which also presents the significant argument that likeability, when it comes to that which makes us feel most wholesome and therefore "most in touch with all that is," is for the most part agreed upon.¹⁰² Alexander presents images of a Heinz bottle versus a saltshaker, an iron stool versus a bench, a dime versus a nickel, and many more. Which is more personal, he asks, which is a "picture of the self," more reflective of the self, more living?

I make it clear that I am asking which of the two objects seems like a better picture of *all* of you, the *whole* of you: a picture which shows you as you are, with all your hopes, fears, weaknesses, glory and absurdity, and which—as far as possible—

¹⁰¹ TNO 1:314.

¹⁰² TNO 1:316.

includes everything that you could ever hope to be. In other words, which comes closer to being a true picture of you in all your weakness and humanity; of the love in you, and the hate; of your youth and your age; of the good in you, and the bad; of your past, your present, and your future; of your dreams of what you hope to be, as well as what you are?¹⁰³

To each Alexander applies the “mirror-of-the-self criterion” to discover an aesthetic beyond mere like or preference (a measure which aligns too with his “life” criterion). Curiously, as said, it is not always what is most “beautiful” that receives the label of the more personal (i.e., the most “living” or reflective of the self) in the pairings he offers. In one telling example Alexander invites a friend to choose between two carpets. While one is immediately deemed more “beautiful” by the friend, the other, when contemplated under the rubric, Which one is more like yourself? comes into softer focus as the preferred carpet—in spite of, or perhaps for, its age and wear, among other attributes that appeal so often to what Alexander calls personal. It emerges quietly as indeed the more beautiful carpet.

Not surprisingly, this is much like the experience one has of Alexander's architecture. Nothing of his designs bowls you over. There is a gentle and even prosaic quality to many of the structures, where beauty is insistently quiet, dependent upon a contemplative movement of the self, “an internal development and growth in the observer, so that he or she gradually comes face to face with what wholeness really is, and is able,

¹⁰³ TNO 1:317.

step by step, to slowly give up his or her own idiosyncratic ideas about what is beautiful, and replace them with a lasting accuracy of judgment.”¹⁰⁴

True beauty, Alexander appears to say, is reached through humility. It awaits acknowledgement, in contrast, say, to the propulsive force of the sublime. In this sense, beauty offers itself as that which disappears to a degree, as a part in a larger unfolding of the whole in which it sits. In this unfolding, it finds an unexpected intimacy with the person who sits and dwells (and herself unfolds) within it. “Something actually vibrates and responds,” as Newman states, or in the words of Christopher Pramuk, “[The] object somehow resonates within us, even if empirically we are encountering it for the first time.”¹⁰⁵ True beauty resides in an intimacy that better corresponds to one’s true self. The experience, or delight, therefore, carries with it wisps of the familiar, or a recognition in which we must work toward what we wish to recognize (much as Meno’s slave in his effort toward recollection), in Augustine’s sense of an “imprint,” a “secret knowledge,”¹⁰⁶ not of the past but of the present.¹⁰⁷ Bulgakov calls this a “metaphysical memory” a re-*membering* of the good which beauty communicates, familiar to us because we are of it too.

2.5 Conclusion

In this section, we have in broad strokes summarized major themes in Alexander’s work—namely, those of “life,” “centers,” and the “personal.” In the following section, we will

¹⁰⁴ *TNO* 1:319.

¹⁰⁵ Pramuk (2009), 32.

¹⁰⁶ Bulgakov (2008), 123.

¹⁰⁷ Augustine (1991), 444. Poet Kathleen Raine calls recollection (*anamnesis*) a memory not of the past, but of the “timeless.”

establish these themes within a firmer bedrock of what a living and personal cosmos implies and entails by first stepping back into the presuppositions of mechanistic thinking, and from there rebuild toward a world animated by soul. In this way, we will better see, and better qualify, Alexander's cosmic vision.

Section 1: Establishing Alexander's Cosmic Vision

3. LIFE AND MECHANISM

3.1 Introduction

In *The Radiance of Being*, Stratford Caldecott devotes a chapter to Alexander's theory of life, describing this "non-theological approach" as one which shows us "from the side of nature an opening through beauty and life to the supernatural."¹⁰⁸ Caldecott dedicates much of the chapter to an appreciation of Alexander's work but concludes with what he sees as an inevitable criticism. For Caldecott, Alexander's understanding of life is slightly "uncomfortable"—it goes a little "too far." While an inanimate object like a stone may be beautiful and good, to call it living or personal in any real sense removes, for Caldecott, the reality of death that enters the world after the fall. "As in the case of beauty and goodness, a thing may possess these properties to various degrees. A heap of refuse or a bloody corpse is not beautiful, compared to a Greek statue, but some kind or degree of beauty is present in everything.... To call beauty a 'transcendental,'" he continues, "implies that ugliness is simply a deprivation and never reaches absolute zero in anything that exists. This would have to apply to livingness... if this is a transcendental property."¹⁰⁹ Caldecott seeks to ameliorate Alexander's "life" by reframing the sense in which we understand it. Because life does not meet the same criteria as the classical transcendentals—a stone or a bloody corpse that remains in some sense *beautiful* can nonetheless be dead and thus absent of *life*—he argues that "life" and "personal" are what we might call (in his coinage)

¹⁰⁸ Caldecott (2013), 79.

¹⁰⁹ *Ibid.*, 77.

“eschatological transcendentals.” It is not so much that this stone or mountain or beach, as objects extrinsically related to one another, have life of their own; it is that there is a common life that intrinsically relates each to all, that life which has yet to be attained and which sits at the heart of liturgical celebration.¹¹⁰

[Even] if the world as a whole cannot convincingly be said to be “alive” right now, it *will* be alive when it attains its end. It is not alive yet, because the cosmic Fall has introduced death into it. Life—the life of God, that is, Trinitarian life—has not yet been fully revealed. Death has not yet been defeated, except in principle, by Christ. It is the *eschaton* that will reveal the true nature of the world that, right now, is still “groaning” to be born (Romans 8). We might speak of a “personalized” cosmos, a world that through union with Christ becomes a kind of theological person—namely the Church in her cosmic extension. And if the world is, or is becoming, a person, it is also, or is becoming, alive. The Holy Spirit is coming to “renew the face of the earth,” by filling all things with the life of God—and “death shall be no more” (Rev. 21:4).¹¹¹

Here, Caldecott stages much of the argument that comprises our essay, even invoking Sophia “as the goal toward which creation tends—God’s objective purpose in creation.”¹¹² This means no less, for Caldecott, than the personalization of nature—not only man but

¹¹⁰ Ibid., 78.

¹¹¹ Ibid.

¹¹² Ibid., 79.

the entire cosmos fully alive.¹¹³ Nevertheless, I think Caldecott goes too far out of his way to enforce the deadness of the world. While his emphasis is important—dead bodies do not have life (in the biological sense), and stones do not seem to speak to us (but then, perhaps, we have not properly attended to a stone)¹¹⁴—this emphasis nonetheless loses the paradoxical tension we must sustain if we are to glimpse the “parousia behind appearances.”¹¹⁵ “Sophia,” writes Caldecott, “both preexists the act of creation (in God’s foreknowledge), and does not yet exist (in the ever-moving present), and yet is mysteriously present throughout, accompanying the present as a foreshadowing of what will be.”¹¹⁶ What communicates itself as personal or living is a communication of a thing’s true nature as a participant in God, yet this is not what it is now, Caldecott argues, but what it could or will be at the end of time (a transcendental that is exclusively “eschatological,” which is to say, future).

I want to direct Caldecott’s statement here toward a different emphasis, to mete out a balance his emphasis lacks. He correctly affirms the death that has befallen creation, the restorative life toward which it moves, as well as the paradoxical character of Sophia as both present and absent—theological claims (both Christian and Platonic) that, as we will see, aren’t without philosophical merit. However, his focus lands us more upon one horizon (our present one of a death-befallen world) which looks out at a further horizon

¹¹³ Ibid.

¹¹⁴ Catherine Michael Chin illustrates an early Christian story in which “a rock that is in some way alive becomes a person who is in some way alive, who will become, even more, a rock that is in some greater way alive. The transformation of human beings into ‘living stone’ [as Origen argues, humans are ‘living stones’ built together that ‘become a dwelling for God’] has already happened.... Living rock is simply what human beings are. It is also what they will be.” Chin (2024), 57.

¹¹⁵ Martin (2015), 119.

¹¹⁶ Caldecott (2013), 79.

(the restorative life in which all will arrive) without a full engagement in the *movement* between these points, the *coming to life*, or the *coming to ever greater life*, that is Sophia's activity. This *coming to ever greater life* of Sophia's activity is more in line with Alexander's own meaning.

Earth—our physical Earth and its inhabitants—sand, water, rocks, birds, animals, and trees—this is the garden in which we live. We must choose to be gardeners. We must choose to make the garden beautiful. Understanding this will give us intellectual insight into the nature of God, and also give us faith in God as something immense yet also as something modest, something which lies under the surface of all matter, and which comes to life and shines forth when we treat the garden properly.¹¹⁷

Sophia, or the world soul (sister terms that will be expanded upon soon), is more than a ghost of the eschatological future haunting the dead present, a mere prescience of the yet-to-be. She is somehow here already, imbuing things with *life* through grace and through the hands responsive to her grace.

In this chapter, we will, following Alexander, argue for the presence of life in things, animate or inanimate, not only in a future consummation of the temporal into the eternal but encountered in the here and now. As will become clear, this is not a novel argument but a nuanced animism native to Neoplatonism and Christianity, emerging even in the

¹¹⁷ Alexander (2016), 47–54.

world of theoretical physics and evolutionary biology. We fail to see truly if we fail to see life in the things of this world. In Thomas Traherne's words,

Your enjoyment of the world is never aright, till the Sea itself floweth in your veins, till you are clothed with the heavens, and crowned with the stars: and perceive yourself to be the sole heir of the whole world[;]... till every morning you awake in Heaven; see yourself in your Father's Palace; and look upon the skies, the earth, and the air as Celestial Joys.¹¹⁸

"Sin is to act," states Michael Ramsey (paraphrasing F. D. Maurice), "as if these things were not true, to slip into a false view of what things mean. To know how things really are—is to be delivered from sin."¹¹⁹ "Separating heaven from earth is a crime," writes Luigi Giussani, "a crime we all commit when monotony enshrouds childhood wonder."¹²⁰ Along these same lines, Chesterton states:

For grown up people are not strong enough to exult in monotony. But perhaps God is strong enough to exult in monotony. It is possible that God says every morning, "Do it again" to the sun; and every evening, "Do it again" to the moon. It may not be automatic necessity that makes all daisies alike; it may be that God makes every daisy separately but has never got tired of making them. It may be that He has the

¹¹⁸ Traherne (2009), 14.

¹¹⁹ Ramsey (1951), 70.

¹²⁰ Luigi Giussani (2019), xxxiii.

eternal appetite of infancy; for we have sinned and grown old, and our Father is younger than we.¹²¹

We might thus stretch Caldecott's emphasis toward the other extreme and fairly say that to see the creation as *anything but life* is to succumb to the lie that seeks to diminish our own lives. *Ulro*, as William Blake called the outer darkness, does not, in fact, exist; it is not a place in which one can be; it is the psychological state of a delusion that one allows to rule his understanding—that state of delusion being none other than the nightmare that sees all as dead.¹²² Aquinas, too, suggests creation as a cosmourgic event of life. "If we consider things as they are in the Word, they are not only alive, but they are the Life. For their ideas, which exist spiritually in God's wisdom and by which things have been made by the Word himself, are life."¹²³ Just because life has not been fully revealed (even our own life hides in secret further revelation) does not mean that the world is lifeless. On the contrary, what it reveals—as the very content of revelation—is that nothing was ever lifeless. Indeed, it will reveal that life was always already here: what is eschatologically future is not a new cosmic structure absent from the present, but the very analogical structure that orders us now, one bearing even in our final *theosis* or beatification, in which God is never attained or possessed in identity—never fully known—but is held in a relationship that reveals our identity as united in our deepest center to God. *Eros* here is

¹²¹ Chesterton (1986), 263–64.

¹²² Northrop Fry calls this a "demonic world" in which time becomes "pure duration and power of annihilation" and "space as alienation." Time is no longer "now," nor is space "here." See Frye (1990), 179.

¹²³ Aquinas, *In Ioannem* 1.2.91. Also see Torrell (2003), 67.

shaped as *epectasis*, a love whose terminus is an eternal spring or passage—an “inexhaustible richness.”¹²⁴

However, as Alexander argues, it will not be *solely* a belief in God that will restore our vision of the cosmos to what it truly is. For Alexander, the root of our illness does not reside in one’s faith or lack thereof as such but rather in our *belief in matter*—that is, in the very “stuff” we think dead. Alexander argues that without a sufficient understanding of the physical character of the universe, even the divine, to whom we attach our faith, falls into abstraction. The first chapter to follow will take up this point, with a discussion that builds upon Alexander’s challenge to the materialist-mechanist world picture lingering even at the roots of more supple theories that spring to life in the twentieth century (e.g., emergence, quantum physics).

In the second chapter, we will distill the problem of mechanist thinking to the Cartesian theory that distinguishes mind and *physis*, or mind and extension, into two contrary substances, a supposition that follows from what one considers to be the “primitive fact” of consciousness. Our conclusion will be one that sees mind and world as never separate but unified in such a way that every form is a sign of life, emerging in the “measure of the self” and pushing us toward Alexander’s proposal of a “modified physics” of metaphysical and analogical depth.

Implicit here will be a gradually accruing response to Caldecott’s critique of Alexander in which our considered emphasis will ultimately be one that errs on the side of

¹²⁴ Merleau-Ponty, *Signs* (1964), 167. We explore the notion of *epectasis* in ch. 8, where it frames our discussion of teleology.

ascribing to the world life rather than lifelessness. Everything that is, everything that exists, in virtue of participating in eternity's loving and creative flow, has life. Alexander seeks to return us to a former common sense that sees the world as a "living animal"¹²⁵ whose unfolding comes to fruition through our own reciprocal creative act of love, care, and attention.

3.2 The Nature of Matter: *The Misunderstanding at the Root*

The fourth volume of Alexander's *Nature of Order*, titled *The Luminous Ground*, condenses the cosmology that is present throughout the volumes into a single comprehensive exposition. The book begins by reiterating the failings of the mechanistic worldview in which, beyond Descartes, even the non-extended self is now an artifact. "The intellectual device of treating entities in nature as if they were inert, as if they were lumps of geometric substance, without feeling, without life—in effect, merely mechanical elements in a larger machine"—creates what Whitehead calls a "bifurcation of nature,"¹²⁶ in which "one is the conjecture, and the other is the dream."¹²⁷

There is thus two worlds in our minds. One is the scientific world which has been pictured through a highly complex system of mechanisms. The other is the world we actually experience. These two worlds, so far, have not been connected in a

¹²⁵ "Living animal" a term used by Plato in the *Timeaus*, as well as by Alexander. See Alexander (2012), 187, 201.

¹²⁶ *TNO* 4:13.

¹²⁷ Whitehead (1920), cited in *TNO* 4:23n2.

meaningful fashion.... Whitehead believed that we will not have a proper grasp of the universe and our place in it, until the self which we experience in ourselves, and the machinelike character of matter we see outside ourselves, *can be united in a single picture*. I believe this. And I believe that we shall not have a credible view that shows how human life and architecture are related until [the] bifurcation is dissolved. Indeed, until it is dissolved, we cannot help—at least partially—thinking of ourselves as machines!¹²⁸

This is a significant statement, describing precisely those implications of a world in which nature is stripped of its native *qualia*. A worldview in which nature has no intrinsic value or *telos* appears to precipitate into one in which even the non-extended self loses its value; and because this self, or mind, is not a quantity, it loses its reality as well, reduced as it must be to the matter (or quantity) out of which it emerges. A faith in God beyond this cosmic mechanical totality does not seem to be enough to save us. If the things of this world have no final cause, then why suppose there is any at all, even for the human being? “Even the most holy,” Alexander writes, “the most serious of these zen monks, new-age priests, new brethren of the new churches in Texas, in the Philippines, in Japan, in Africa—what can they hope to accomplish? The fundamental root of our troubles, of our

¹²⁸ *TNO* 4:13. Another way to articulate this bifurcation of nature is in the Lockean distinction of primary and secondary qualities. For Whitehead, this division actually precedes Descartes’s dualism as the ethos in which the latter could come to be (though he hesitates to formally pin down this emergence historically). On this subject, see Debaise (2016), 10–20.

meaninglessness, lies in our view of the nature of matter.... *It is the nature of matter itself, which is at stake.*”¹²⁹

A new attitude appears to emerge in the 20th century, Alexander notes, an attitude beginning with quantum mechanics, which shows

that an accurate picture of local particle behaviour cannot be reached merely by looking at the local structure of physical events; rather, that in some compelling way the behavior of each local event must be considered to be influenced by the whole. In a few cases there have even been indications that the local events are influenced by, or been subject to, behavior and structure of the universe as a whole, including influences and interactions that propagate faster than the speed of light.¹³⁰

The important point here is that physical systems appear to require an attention to the character and behaviour of the whole rather than attention to an explanation of the whole through the mechanical activities of the parts, “a conglomerate of local events acting by themselves.”¹³¹

¹²⁹ TNO 4:14. Stephen R. L. Clark makes this argument. Once nature is drained of its life, of a certain animism, the eradication of God and the self will inevitably follow. Clark (2017).

¹³⁰ TNO 4:15.

¹³¹ Ibid. Significantly, early quantum theorists like David Bohm and Erwin Schrodinger noted these implications, criticizing tendencies in new generations of physicists “to deny the scientific significance of the implications of wholeness in the quantum theory that were so strongly perceived by its founders.” Bohm (1985), 129. Bohm proposed a theory of an “implicate order” in an attempt to explain the greater wholeness—or “integrity rather than fragmentation”—of which quantum behaviour in the explicate order suggested. www.kisser.net.au/tuntodan/Bohm.html. For Bohm, this implicate order or “plenum” was a non-localized “sea of energy” of which “the entire universe of matter... [is] a comparatively small pattern of excitation.” Bohm (2002), 192. On the other hand, Schrodinger’s insight into wholeness emerged from the

More complicated systems arise too in biology, in emergence theories which observe a more complex structure in organisms, both within the interrelatedness of their functions as well as their relationships to an intricate ecosystem beyond themselves. Research and development into “chaos theory, the theory of complex structures, fractals, [and] the idea of autopoiesis in complex systems” have each offered new contributions to our understanding of these “richly interconnected systems”: “Thus biology, ecology, the emerging fields of complex systems theory, and physics, have all begun to point the way towards a new conception of the world in which the local system is influenced by, and compelled by, the behaviour of the whole.”¹³²

Alexander quotes Mae Wan Ho to illustrate the beauty of such a complex system:

What one must imagine is an incredible hive of activity at every level of magnification—of music being made using more than two thirds of the 73 octaves of the electromagnetic spectrum—locally appearing as though chaotic, and yet perfectly coordinated as a whole. This exquisite music is played in endless

epistemic aspect of quantum behaviour, the implication of the observer on the observed, particularly in the event of “awe” or “wonder.” Unlike Francis Bacon, for whom wonder is “broken knowledge” coaxing us towards the reparation of a discursive insight, Schrodinger understands awe itself before the phenomenon as an “act of thinking... that does not merely observe the phenomenon but in fact provokes its self-manifestation to human apperception.... To shine forth in wonder, the phenomenon needs the thinker every bit as much as the thinker needs the phenomenon.” In this way, it is the *mind*, or *consciousness*, that moves the matter (i.e., the atoms and particles), and for this Schrodinger states, “I am Almighty God,” after the Upanishadic notion that mind is a single reality, “wisdom [consisting] in the realization that the personal self equals the omnipresent, all-comprehending eternal self.” Harrison (2011), 16–17. Of course, while their presuppositions are ultimately metaphysical, neither Bohm nor Schrodinger delve into the ontological gap(s) to sort out the ways in which eternal or divine orders might be related to the explicate order (in Bohm’s case) or to the maya of reality (in Schrodinger’s).

¹³² TNO 4:16.

variations subject to our changes of mood and physiology, each organism and species with its own repertoire.”¹³³

While this passage is “humane and beautiful”, what we nevertheless get from all of this, Alexander argues, is but only a slight improvement from the modern science of previous eras. “*The personal,*” he states, “*the existence of felt ‘self’ in the universe, the presence of consciousness, and the vital relation between self and matter*—none of these have entered the picture yet, in a practical or scientifically workable way.” What we are left with, whether we are speaking of Einstein or Heisenberg, is a whole that remains *inert*, which is not interiorly or dynamically oriented, and which thus remains no more than an accumulation of parts. “The most fundamental problem with the mechanistic world picture has still not—yet—been solved.”¹³⁴ However delightful these new systems appear, they do not unify what has been bifurcated. “Whitehead’s rift remains.”¹³⁵

Alexander formally lists ten “tacit assumptions” that this bifurcated worldview results in, among them the subjectivity (and thus non-existence) of value in architecture (as well as in any other human endeavour); matter as inert and non-teleological; matter and mind as utterly and irreconcilably disconnected; art as a mere social phenomenon without anything to say about the structure of reality; the fracture of ornament and function in which architecture becomes only a matter of practical function; the act and intuition of art as a meaningless event, as useless in scientific terms—similar to the also useless

¹³³ TNO 4:16.

¹³⁴ TNO 4:17.

¹³⁵ TNO 4:17.

instinct that a deeper meaning is afoot in the world that heart and mind might pursue.¹³⁶

Alexander argues that although numerous poems and paintings and modern books have sought to restore, sustain, and affirm meaning in the world, “the world-picture *itself*, the scientific world-picture, continues to assert the blind meaninglessness of the physical matter in the world, and of the physical matter we ourselves are made of.” Thus, for Alexander, art and architecture work in the shadows of science, or a scientific understanding taken for granted¹³⁷—*physics* with its own *mythos* of an ultimately attainable “theory of everything” whose promise to explain the full scale of reality “fails to incorporate fundamental experience, and fundamental intuitions [or feelings].”

So far, within the framework of physics, this mismatch between feeling and theory has been ignored. But look what happens as a result. What it means is that we have a certain experience, momentary perhaps, something we consider a haze of emotion... a feeling we recognize as deep, as vitally important.... It lasts for a few seconds, perhaps even for a few minutes... and then our rude cosmology dismisses it.¹³⁸

This is not a confrontation between art and science; the confrontation is within ourselves, and with our inability to find a scientific model of our world that reconciles art, intuition,

¹³⁶ *TNO* 4:19–20.

¹³⁷ Interestingly, we might also argue that art itself is not innocent of its influence upon modern science. According to Johannes Hoff, it was art that carried forth, and perhaps even first shaped (in the linear, representationalist modes emerging in the Renaissance with Bruno, for instance), an inertial space in which mechanism could be supposed. See Hoff (2013).

¹³⁸ *TNO* 4:21.

ornament, beauty, and subjectivity-objectivity with the physics which we suppose of the material world. In other words, it is a confrontation with the kind of stuff the universe is made of,¹³⁹ and a search for a solution which, in the argument of Whitehead, can reconcile Newton's *Scholium* with Plato's *Timaeus*, revealing both to indicate a world in common; indeed, these provide two representative frameworks that it will prove useful to stick with for the moment.

3.3 A Force Beyond Empirical Inquiry: *Where the Scholium and Timaeus Agree*

In Whitehead's *Process and Reality*, where he (briefly) contrasts this pair, he argues that Newton's error was not his own theories as such; he describes the *Scholium* as "an immensely able statement of details which, although abstract and inadequate as philosophy, can within certain limits be thoroughly trusted for the deduction of truths at the same level of abstraction as itself." The problem is the work's philosophical acknowledgement of its limits.

The practical effect is that the readers, and almost certainly Newton himself, so construe its meaning as to fall into what I have elsewhere termed the "fallacy of misplaced concreteness." It is the office of metaphysics to determine the limits of the applicability of such abstract notions. The *Scholium* betrays its abstractness by affording no hint of that aspect of self-production, of generation, of *ousia*, of *natura*

¹³⁹ Ibid., 23.

naturans, which is so prominent in nature. For the *Scholium*, nature is merely, and completely, *there*, externally designed and obedient.¹⁴⁰

But if this were Newton's position in the *Scholium*, it wasn't one consistent throughout his corpus. Indeed, it wasn't so much his reduction of nature to mechanism that was his greatest achievement but, according to Hume, the obverse: "[While] he seemed to draw the veil from some of the mysteries of nature, he shewed at the same time the imperfections of the mechanical philosophy; and thereby restored [Nature's] ultimate secrets to that obscurity, in which they ever did and ever will remain."¹⁴¹

In his article "The Mysteries of Nature: How Deeply Hidden," Noam Chomsky makes the case that Newton, although generally adhering to the mechanical philosophy, "also showed its 'imperfections,'" and, indeed, "demolished" the model, at least as one which could establish a fully exhaustive description of the world.¹⁴² "[To] the end of [Newton's] life," Chomsky writes, "he sought to find some way to account for the mystical principle of action at a distance that he was compelled to invoke to account for the most elementary phenomena of nature."¹⁴³ To explain attraction and cohesion—that is, the force of gravity transmitted through empty space between masses—Newton couldn't rule out the possibility of "a most subtle spirit that pervades and lies hid in all gross bodies."¹⁴⁴ Indeed, he is remiss to subtract the possibility—granted that his influences were as much

¹⁴⁰ Whitehead (1973), 93.

¹⁴¹ Hume, quoted in Chomsky (2009), 167.

¹⁴² Chomsky (2009), 170.

¹⁴³ Ibid.

¹⁴⁴ Newton, (1704), query 31.

Neoplatonic as Cartesian¹⁴⁵—“that all nature is not alive.”¹⁴⁶ For Newton, the theory of gravity is an hypothesis which eludes absolute mechanism, one which Lange notes already in 1865. “The course of history has eliminated this unknown material cause [that so troubled Newton], and has placed the mathematical law itself in the rank of physical causes.... What Newton held to be so great an absurdity that no philosophic thinker could light upon it, is prized by posterity as Newton’s great discovery of the harmony of the universe!”¹⁴⁷ But while we are tempted to think that Einstein later resolves this in the refinements relativity makes to the theory of gravity, force, movement, and change remain mysterious quantities (if *quantities* they be). But even if we concede that Einstein’s refinement offers us a further advance in a physicalist theory of gravity’s operation (i.e., that a force at a distance is not mediated through a material medium à la Newton but is the result of a curvature in spacetime around an object), it still cannot make complete mechanical sense of the event. First, it moves no whit closer to resolving the *material* basis of gravity in microscopic scale (evading, for instance, the question of what “spacetime” precisely is—a *material* force?¹⁴⁸), still substituting in place of it a mathematical law. Likewise, in the corridors of quantum thought (which cannot be reconciled with Einstein’s general relativity), loop quantum gravity has found that if calculations adhere to certain

¹⁴⁵ Chomsky (2009), 168.

¹⁴⁶ McMullin (1978), quoted in Chomsky (2009), 169. In a footnote, Chomsky adds, “[McMullin] concludes that because of Newton’s vacillation in use of the terms ‘mechanical,’ ‘spirit,’ and others, it is ‘misleading... to take Newton to be an exponent of the ‘mechanical philosophy.’”

¹⁴⁷ Lange (1925).

¹⁴⁸ Stratford Caldecott suggests that all we do in Einstein’s theory is to defer to the ancient “fifth element.” “Aether was in a sense disproved by the Michelson-Morley experiment in 1887, but later tacitly reinstated by Einstein under the new guise of the space-time continuum itself.” Caldecott (2017), 58-59.

premises,¹⁴⁹ time and space can be quantized (and therefore quantified) toward a bottom limit (a smallest volume of 10^{-35} meters and a smallest unit of time, 10^{-43} seconds) that, when applied to theories of light in general relativity, could demonstrate a physicalist basis to gravity within the quantum field (and, in no small part, reconcile the latter with general relativity, or high energy physics with low energy physics). However, this theory (as yet undemonstrated)¹⁵⁰ leaves us in something of an Eleatic riddle. Can we, after all, have a smallest possible stuff? Is there a point at which there is no division, no further ingredients of which a substance is composed that would indicate a smaller level?¹⁵¹ And just as jarring (for the metaphysician as well as the physicists who note it), a bottom-most terminus both begs the question (i.e., physics, to explain reality, never, or at least rarely,

¹⁴⁹ Namely, “background independence” and “diffeomorphism invariance,” the former freeing calculations from supposing any necessary shape to space (releasing it from flat Euclidean stiffness, as it were, leaving it supple to bend within the four dimensionality of general relativity), the latter allowing calculations to drop considerations of outside data acting upon gravity. With these two presuppositions shaping data, physicists ask whether they are forced to understand time and space as quantized. The answer is yes. Dr. Don Lincoln offers a clear tutorial on this theme. <https://www.youtube.com/watch?v=QMpkFde3euA&t=343s>

¹⁵⁰ The superposition of particles (as in the wave/particle duality of the double slit experiment) does not necessarily suppose a multiverse that houses all variability but reminds us that theories are thus far only mathematical representations of particles, or “particles” that only *act* like particles some of the time (and which may not, thus, be particles). In other words, our mathematical representations, while very often viable (correctly interpreting quantum “spooky behaviour”) do not know what it is they represent. See Ferrie (2023). Batterman and Rice make the argument that explanatory models which depend upon “common features accounts” (i.e., a mathematical or idealized correspondence or reflection between the explanation and its target reality, as in quantum theories and the life of particles it seeks to explain) depend upon “minimalist models” that are only “caricatures” (subtracting from analysis the entire reality of an object or event in order to reduce it causally or mechanistically) employed to explain “the behaviour of real systems.” Batterman and Rice (2014), 349–76.

¹⁵¹ LQG theory could be disputed by Jonathan Schaffer’s thesis of “infinite descent” wherein any posited floor or base to reality is question begging. Schaffer (2003), 498–517. For a developed argument against a material base in physics, seeking a reduction not to the bottom, nor to the top, but to the *middle*, or the *mixt* (as in Plato’s *Parmenides*) in which a codependence of part and whole is sustained, with the latter understood to be the “master” and the former the “servant” (“[Atoms] know not what they do”), see Cunningham (2022). Cunningham argues that chemistry itself might hold the key to this middle position: an attention on the micro and macro in mixture. See also Duhem (2002). For a hylomorphic interpretation of this “mesoscopic” foundation, in which the microphysical fails to be substantial (and thus foundational) in so far as quantum entanglement and the fundamental wave-like natures of particles eschew their individuality, see Koons (2021).

diverges from its starting premise: that reality is exhaustively *physical*) and leaves us asking another obvious one—namely, what is left beneath, or within, this smallest mass? “We transform all that which might be below it,” Conor Cunningham states, “into something nonphysical, and surely the physicalist does not wish to have such phenomena in its ontology.”¹⁵² Moreover, the wished-for resolution of general relativity and quantum mechanics (LQG’s ultimate aim) will still not ostensibly resolve the nonlocal activity of quantum entanglement and other unknowns that may suppose “pilot waves” or other “hidden variables” of an implicate (immaterial, nonlocal) order, as physicists like David Bohm propose.¹⁵³

What can’t be broken down to smaller parts? And were we to find the smallest possible substance in, say, a spin network, or in the explanations of string theory, why wouldn’t these be fully satisfactory (as the physicist supposes they ought to be)? If, indeed, we had found the last indivisible ingredient, what would be the unaccounted for remainder? Chomsky notes that “motivation” or the general problem of “will” “remains as mysterious to us [today] as it was to seventeenth century scientists.”¹⁵⁴

The problems are hardly even on the scientific agenda. There has been very valuable work about how an organism executes a plan for integrated motor action—say, how a person reaches for a cup on the table. But no one even raises the

¹⁵² Cunningham (2022), 58. Cunningham serves the Thomistic reminder that all science is *subalternate*, “living upon borrowed logics of which they cannot give an account.” Ibid., 75.

¹⁵³ See Bohm (1952).

¹⁵⁴ Chomsky (2009), 177.

question of why this plan is executed rather than some other one, apart from the very simplest organisms and special circumstances of motivation.... The phrase “at will” [as in the choices of visual perception: an animal (human or fish, etc.) selects “at will” particular foci that compose its understanding of reality] points to an area beyond serious empirical inquiry, still the mystery it was for Newton at the end of his life when he continued to seek some “subtle spirit” that lies hidden in all bodies and that might, without “absurdity” account for their properties of attraction and repulsion, along with the nature and effects of light, sensation, and the way “members of animal bodies move at the command of the will”—all comparable mysteries for Newton, perhaps even beyond our understanding.¹⁵⁵

There seems, in other words, an inability to explain within the boundaries of mechanical philosophy nature’s order, *natura naturans*—a desired final cause—which leaves us with a lingering “hard problem” at every level of scale.¹⁵⁶ What is meant by final cause, of course, needn’t be Aristotle’s pre-Newtonian conception of the force, for instance, later known as

¹⁵⁵ Ibid.

¹⁵⁶ Spacetime does not “tell us what spacetime does,” argues Baptise Le Bihan, a point which the unresolvable cleft between high and low energy physics (or general relativity and quantum mechanics) makes starkly clear. This, as Le Bihan argues, is a sufficient enough disparity, or duality, to understand spacetime on the analogy of “functionalism,” thus posing a “hard problem” in the way in which the theme is used in the philosophy of mind. The argument that this duality in spacetime seems far-fetched in that we needn’t suppose a “what it is like to be spacetime,” or *qualia*, as we do for the mind (a “what it is like to be me” over against my physical, measurable body), already comes with presuppositions—namely, that spacetime is physical, container-like, a substance (or “stuff”) and not, for instance, merely a series of relational points (an unquantifiable ontology of relation). Le Bihan, (2021). Those who would reject Le Bihan’s analogy are those who work out of a presupposition that sees the body as something *first* substantially different from the mind. Is the body reducible to quantification and thus able to be presented in contrast to the mind? Is spacetime so clearly physical, or does a potential unresolvability in how we know spacetime point to—as in more salutary, classical interpretations of mind and body—a higher analogical participation, or *logos* (e.g., a “what it is like to be spacetime”)?

gravity (i.e., the rock which falls back to earth *because* that is its origin). A teleology may be more subtle. “Think about a cell swimming in a bath of chemicals,” writes cellular biologist Adam Frank. “What makes the cell different from the chemicals? It’s the cell membrane that uses information to decide what to let in and what to keep out. But the membrane must continually be recreated and maintained by the cell from materials in the environment. And yet it’s the membrane which lets the cell decide what constitutes the self (the cell) and what constitutes the outside world (the bath of chemicals).”¹⁵⁷

In other words, there is a kind of sustained self-distinction in which a nature, even one as simple as a cell, *discerns* what is self and what is other in order to *manage* itself within an environment.¹⁵⁸ If it were to fail to, it would dissolve into the oblivion of the bath of chemicals surrounding it; if they were all to fail to, there would be no chemicals to fill a bath, nor chemicals to speak of. There is, thus, a formal cause simultaneous with a being’s final cause,¹⁵⁹ a purpose to being a cell, to being a *self*, a purpose no less modest than that of any other creature.¹⁶⁰

But the question of self, or the question of the *telos* that sustains the self, may go further than simply the management of one’s present boundaries insofar as those

¹⁵⁷ Frank (2023).

¹⁵⁸ On the theme of final causes in cells, one might also draw on the theory of “cell commitment and differentiation” strongly suggestive of cells making “choices” within the relational context of an organism’s needs. See, for instance, MacLean and Hall (1987).

¹⁵⁹ This is Aristotle’s own sophisticated understanding of a final cause. “And since nature is two-fold, nature as matter and as form, and the form is the end, and since everything else is for the sake of the end, this cause [formal] must be what things are for the sake of.” Aristotle, *Metaphysics* (199a31–3), cited in Roochnik (2016), 192. Indeed, if he believed a rock fell to the earth because it belonged there, this was merely a mistaken formal/essential feature, not the abyss into which his causal theory slips. If we subtract this one formal quality, many yet remain that go beyond the ken of positive science (What in a mineral *seeks* its form? What *drives* the mechanisms, say, of mineral accretion?).

¹⁶⁰ Proclus describes this activity as “production,” a self-contemplative activity analogous with a human’s anamnestic capacities. We discuss this theme in section five.

boundaries appear to push out creatively beyond the present (in what Simon Conway-Morris has called “the geometry of life”).¹⁶¹ The issue of a final cause elides the interests of both physicists and evolutionary biologists when we consider the time over which selves transform. Challenging the theory of arbitrary evolution (or “the gospel of contingency”)¹⁶² upheld by scientists like Stephen Gould or Jacques Monod,¹⁶³ the theory of convergence and constraint presumes a “gospel of inevitability.”¹⁶⁴ “Convergence (or homoplasy),” Conor Cunningham explains, “is the phenomenon whereby unrelated lineages evolve nearly identical biological traits. One of the major implications arising from this is that natural selection is constrained; that is, there are only a finite number of viable avenues for it to take, and thus it is forced to adopt certain solutions to biological problems.”¹⁶⁵ Whether in the form of the camera eye shared by both human and octopus, the form of the dorsal fin, structurally identical on both shark and dolphin, or the form of consciousness, which appears in phyla as distinct as insects, fish, birds, reptiles, and mammals, there appears a *form*, almost like a “biological cul de sac”¹⁶⁶ in which evolution slows down. What this supposes is that in any iteration of, for instance, the proto-camera eye strives an unrealized potency—a problem (e.g. “spherical aberration”)¹⁶⁷ that already, in some sense, *knows* its solution, without which there would be no problem, nor evolutionary change.¹⁶⁸

¹⁶¹ Conway Morris (2015), 3–8.

¹⁶² Cunningham (2010), 146.

¹⁶³ “The Universe was not pregnant with life,” writes Monod, “nor the biosphere with man.... Man knows that he is alone in the indifferent vastness of the Universe from which he has emerged by chance.” Cited in Cunningham (2010), 146.

¹⁶⁴ *Ibid.*

¹⁶⁵ *Ibid.*, 145.

¹⁶⁶ Conway Morris (2015), 3–8.

¹⁶⁷ Conway Morris (2016).

¹⁶⁸ Convergence, therefore, supposes *orthogenesis*, or “directed evolution,” as opposed to *amphigenesis*: “The ability to vary in every possible direction.” Wynand de Beer notes that the neglected Alfred Wallace

“Deep in the history of eukaryotes lies the potentiality for a brain,” or, we might also say, the potentiality for thought, or the potentiality to participate in the scales of music. The order of the world (*natura naturans*) appears as something both within creatures and toward which each is oriented, the only way in which we might explain, for instance, an incident in which an elephant and a whale—two old, widowed matriarchs—plaintively communicate to one another at the tip of a South African peninsula (as in Caitrin Keiper’s article *Do Elephants have Souls?*).¹⁶⁹ Models of evolutionary contingency (and its mechanistic underpinnings) are not sophisticated enough to fully explain such an event in that they remove what we must presume: the existence of a shared (immaterial) form—consciousness, language, music—in which sentient creatures appear to participate.

On every level of scale a hard problem is met, of which the body-mind relationship is only the most stark for being the most intimate to us. Some sense of mind, of knowledge, of purpose cannot be eschewed from the physical, nonhuman life of our world—which is always the danger when mechanism fails to recognize its second-order nature. Such a failure jeopardizes both the truth of nature as well as our relationship with nature. On the heels of Newton’s conclusions—namely, that the world *cannot* be understood mechanically—Joseph Priestly states,

“who shared the formulation of the theory of natural selection with Charles Darwin” was a proponent of the former. *Amphigenesis* insists that direction only occurs, or seems to occur, based upon natural selection; the force of life, stripped of natural selection, is random, aimless. But this, for Wallace, overlooks “the agency that sets in motion a whole series of mechanical, chemical, vital forces.” Quoted in de Beer (2018), 98.

¹⁶⁹ See Caitrin Keiper (2013). Event described toward the end of the article.

The principles of the Newtonian philosophy were no sooner known, than it was seen how few in comparison, of the phenomena of Nature were owing to solid matter [that is, to mindless/spiritless matter obtaining in dualist Cartesian extended substances] and how much to powers which were only supposed to accompany and surround the solid parts of matter.... Now when solidity had apparently so very little to do in the system, it is really a wonder that it did not occur to philosopher's sooner... that there might be no such thing in Nature.¹⁷⁰

In the brief and telescopic view we've taken of the mechanical philosophy, what we see is not only mechanism's explanatory poverty in capturing the fullness of being but that indeed Newton's conclusions (*pace* Whitehead) were not opposed to Plato's, nor adrift from one of his central affirmations: the world—the “living animal”—had an order whose explanation requires us to go beyond mechanism.

3.4 The Measure of the Self: *Alexander's Epistemology Reveals Nature as Partaking in a Common Pre-Empirical (Anamnetic) Root*

But if not mechanism, then what? If the world is not totalized by governing forces acting extrinsically upon one another, then of what is it constituted? Alexander offers us an alternative model, a metaphysics of “not-separateness” that begins in epistemological experience (what he calls “the measure of the self”)—a unified experience of the self within the world (and the world within the self) in which we acknowledge an intrinsic,

¹⁷⁰ Priestly, quoted in Chomsky (2009), 190.

analogical fabric binding all alterity. In our deepest subjectivity, Alexander argues, we overcome subject-object duality by becoming aware of the mind's indigent unity with nature. "I wish to assert something altogether different," he remarks,

I wish to say that *the relatedness through which I feel that my own self and the tree in the field are directly connected is the most fundamental relation that there is*. I wish to say that in this relatedness—in realizing my connection between my own self and the tree, or the pond, or the road or the grass—that I learn, feel, understand, that I am of the world, that I partake of the world, and it is in this relation that my real connection with the universe may be understood and experienced by me. Far from being a minor cognitive resemblance between me and the tree, this relatedness which exists between us and the living things in the world occurs, I think, because of a fundamental connection between our own self and *something* which is in those things.... This relatedness occurs, because there is, in the very matter we are made of, a connection to self, a rootedness in self... [and] only in a connection with these living things... am I fully real. In a place surrounded by alien non-living structures where I do not feel such a feeling of relatedness, my *actual* relatedness to the world is interrupted or destroyed. Then I myself am not as real.... I claim that the relatedness between myself and a thing in the world which encourages my relatedness *is the most fundamental, most vivid way in which I exist as a human being*. When it occurs, my own self—the degree to which I am connected to the world, the degree in which I partake of the interior "something"

that underlies all matter—is then glorified, is at its zenith, and I then experience myself, as I truly am, a child of the universe, a creature which is undivided and a part of everything: a small extension of a greater and infinite self.... Thus the fullness of my existence, my capacity to be a person, my capacity to drink in, enjoy, and commune with the full depth of living matter in the universe is sanctified, and allowed, and enlarged, by my relatedness with the treestump. It is prevented, atrophied, cut off, by my not-relatedness with the plate-glass window, the fashionable façade, and the deadness of the supermarket parking lot.¹⁷¹

There is a common and reciprocal nature between the world “outside” and the contemplative inner self, a mutual coinherence or living reflection which does not merely affect us in our deepest contemplative capacities—say, meditation or prayer—but reveals itself in our mood and behaviour in the simple impression of a room or garden or parking lot. Holy, pleasant, or despairing, as feelings, seem to belong as much to the structures of our environment as they do to the heart which feels them.

Alexander offers us a bold new vision, which isn’t, of course, entirely new, but hails back to premodern understandings of a world known through *anamnesis*, a recollective activity that sees the mind and all it knows as rooted in an eternal memory which our encounters in temporal experience bring forth. Importantly, a shift from this disposition was one which did not simply arise through new discoveries in the physical world (e.g., geocentrism) but emerged in concert with new lineaments of human self-understanding. It

¹⁷¹ TNO 4:56–57.

wasn't the world that offered itself up as exhaustively mechanical, after all, but certain notions of what we think we are, and how it is we think we relate to the world. To put it another way, the "primitive fact" of experience had gone from one of intrinsic order and relationship, to one of a world of exteriority in which all physical bodies—along with the non-physical mind, now entrenched in an isolated subjectivity—all stood apart from one another.

Rather than default to a premodern epistemology—that is, rather than verifying Alexander's "measure of the self" in a mere comparison to the Platonism it resembles—it benefits us to plunge through the presuppositions of Cartesian philosophy alongside earlier modern thinkers who also felt its strain, in order to "troubleshoot" the soul for a "fact" more "primitive" than the *cogito*. Let us, therefore, briefly, pursue the dialectical moves between René Descartes, Pierre Maine de Biran, and Félix Ravaisson that take us back into the daylight of a Platonism which binds nature and self to a common root. This will serve to ground Alexander's epistemology as well as the analogical, world-soul terrain of his "modified physics"—our discussion for the following section.

3.5 The Primitive Fact in Descartes and Biran: *Is the Impetus of the "I" in Thought or in Will?*

Descartes famously sets the stage for the possibility of a mechanistic worldview in his division of nature into two substances, extension (material bodies) and nonextension (mind), with the third substance, God, as the remote source of nature's being. "By substance," Descartes writes, "we can understand nothing else than a thing which so

exists that it needs no other thing in order to exist. And in fact only one single substance can be understood which clearly needs nothing else, namely, God. That is why the word substance does not pertain *univoce* to God and to other things.”¹⁷² For Descartes, following Aristotle, a substance is that which cannot be predicated of anything else, the *what* of a thing, or that substratum which, through change, remains changeless. For Aristotle, the body and soul together compose a single substance; neither have independent existence, a point which death demonstrates in being precisely the separation of these aspects. For Descartes, on the other hand, the body cannot be pinned to the mind within the framework of a method of deductive certainty (adhering to the principles established by the New Science and its proto-mechanistic methods).¹⁷³ Further, an understanding of God as a substance with no univocal relationship to mind or extension (i.e., the created world), and without the analogical relationship which would repair a divine transcendence so extreme (so equivocal) it may as well be named an absence, creates a disunity. “When the human misses God,” says Charles Peguy, “God misses the human.”¹⁷⁴ In other words, there is nothing beneath the dualism to discursively connect the common reality which both mind and matter inhabit.

Of course, what grounds this full (if unsatisfactory) metaphysical exposition of reality, and that which sets the philosophical stage for a mechanistic worldview to endure,

¹⁷² Descartes (1911), meditation 3.

¹⁷³ Significantly, his final conclusions come by way of the inductive means of simple experience. In meditation 6: “Nature... teaches me by these sensations... that I am not only lodged in my body as a pilot in a vessel, but that I am besides so intimately conjoined, and as it were intermixed with it, that my mind and body compose a certain unity.” Descartes (1911), meditation 6.

¹⁷⁴ Peguy (2019), 40.

is the *cogito ergo sum*—that “primitive fact”¹⁷⁵ of human consciousness, in Descartes’s surmising, by which we conclude the substantial independence of the mind over against the world of physical bodies. But is the “I think” foundational? Might one argue that Descartes “leaps” or “cheats”¹⁷⁶ right at the outset and fails to note a yet deeper “force”?

Pierre Maine de Biran notes this, a century later, perceiving that even the mind itself is now fashioned a mechanical entity, a “certainty” subject to exploration *outside* of “the effects in which and by which they appear to the senses or imagination.”¹⁷⁷ Against Hume, for instance, Biran argues for an intimate feeling or sense (*sens intime*) that demands not a mediated skepticism in the face of external forces and their effects (for, on Hume’s account, to correlate a force with an effect would entail knowing the fibers, tissues, neurons, etc.—that is, the mechanics involved in the simple act of moving my arm) but instead an unmediated sense of effort or will, a will we know interiorly, a *force* the muscles and tissues don’t themselves explain but one in which they participate. For Biran, *willing* is the central, mysterious theme of the person, “the primitive fact of consciousness in which the true concept of force is discovered.”¹⁷⁸ While Newton leaves the cause and substance of force humbly beyond his ken, and while Hume concludes that it stands beyond knowledge altogether (presuming that it requires knowledge where knowledge cannot

¹⁷⁵ “Primitive fact” is a coinage of Maine de Biran, but I use it retrospectively here to help cinch together the thread running between Descartes, Biran, and Ravaisson.

¹⁷⁶ “Will I say that he cheated a little . . . ?” writes Peguy. “He believed that he deduced the heavens, the stars, an earth. He believed that he deduced water, air, fire, minerals.... Perhaps if he had never seen the heavens, he would not have so easily deduced them. Perhaps if he had never seen the heavens, he would never have *found* them.” Peguy (2019), 40. Peguy suggests an inductive, recollective moment witnessed in experience that precedes all deduction.

¹⁷⁷ Maine de Biran (2016), 64.

¹⁷⁸ Dunham (2016), 172.

reside: within extension), Biran argues that the will reveals to us “a ‘hyper-organic force’ that is ontologically inseparable from ‘organic resistance.’” Jeremy Dunham explains: “Although ‘hyper-organic force’ is distinct from the body, it is only realized in relation to it.... It is only through this relationship that our feeling of personal existence emerges. This feeling raises human consciousness above the mere sensitive being of animals. It is responsible for *apperception* as opposed to mere *perception*.”¹⁷⁹ In Biran’s argument, *cogito ergo sum* is replaced by *volo ergo sum*, in which will ought not to be seen as severed from the other faculties, nor from the ontological fact of one’s existence. “For Biran,” as Ravaisson notes, “‘to be, to act, to will’ are just different terms to refer to ‘one and the same thing,’”¹⁸⁰

Biran restores a sense of the spiritual to a philosophical tradition waylaid by lingering mechanistic presuppositions, but his focus isn’t just to confound the theories. More importantly, he argues for a certain philosophical *method*, a method in which we start from the inside, as it were, in what we might call a proto-Bergsonian intuition—never attending to the primitive fact of consciousness in any sort of analytical mode but instead attending *from* it. While the movement of one’s arm, from an outside observer, may appear like a mechanical operation, it is, from the inside, a fully embodied experience involving sense and intellect, conducted by a mysterious force of will not other than the self. “Biran teaches us to renounce considering the mind ‘from the objective point of view, and as somehow belonging to the outside,’ and to recognize... that in experience there is a direct

¹⁷⁹ Ibid.

¹⁸⁰ Ibid., 170.

intuition or apperception of a force, namely the force of the will in its meeting resistance.”¹⁸¹ It is in this meeting where awareness emerges. As a light which never falls on an object has no opportunity to shine, so the will, without effort (presuming resistance) never comes to be outside of this interaction.

The problem, however, is how one supposes this force to be what operates on the inside of *other* beings. I may have an intimate sense of this nonmechanical force within myself, but if this is a spiritual force that governs being at every level of scale and species—from myself to a cell to gravity’s pull—then how might I know this, especially given a method that emphasizes knowledge as the personal embodiment of a *sens intime*? What compels movement in a human may be entirely different from what compels it in a planet. To answer this, Biran offers a kind of “natural induction,” one “from our experience of causal activity, to true causal action all throughout nature”:

It is natural that we should perceive, or that we should conceive things which do not depend on the *I*, in the manner in which we exist, and under the form or idea which constitutes our individual existence. We exist as an *I*, or as an individual person only find insofar as we are causes; it is therefore natural that we could conceive of nothing, or realize it outside of ourselves except in the same way: “I would like to know,” said Leibniz, “how we could conceive of the idea of *being* if we did not, as beings ourselves, being within us.” I extend this principle and I ask how we could

¹⁸¹ Ravaissou (2016), 9.

not conceive that there are causes, or a single cause alone throughout, when we exist only as causes.¹⁸²

To this speculation, Biran's friend Ampere responds that there is "between the individual feeling of the causality of the *I*, and the belief or necessary universal notion of cause, an abyss that cannot be crossed by recourse to analysis alone, or by analogy or induction."¹⁸³ There is, however, merit in Biran's argument, one which we will become clearer in Ravaisson (below), but for Biran the possibility for this position has already been stymied, for at least two reasons: First, in the process of his argument, he has already supposed force as heterogenous in nature, different in kind between the psychological and physiological (between a thinking human, say, and a rock) and different too between levels of consciousness (a human and a nonhuman animal).¹⁸⁴ His emphasis on this difference, as one in kind, not degree, obstructs a credible analogical link unifying nature's diversity; second, we may also say that he fails to see *knowing* itself as *being*, where the mind is not "located" outside matter, nor is matter "located" outside the mind—a theme which is the mechanical philosopher's first presupposition: everything is placed on the outside, as

¹⁸² Maine de Biran, from his *Journal Intime* 226–27.

¹⁸³ Cited in Dunham (2016), 179. We might also note a light irony in that this is the case Biran brings in his criticism of the nonmechanistic philosophy of Georg Ernst Stahl. Stahl proposes a kind of animism within nature, a theme that might have put him in common cause with Biran. Nevertheless, Biran takes issue with a method which abstracts the soul from an intimate sense of what the soul is, then distributes it willy-nilly throughout creation by analogy. See Maine de Biran (2016), 62–63.

¹⁸⁴ "[For Biran,] the force responsible for apperception is not the same kind of force as the kind responsible for sensibility. This distinction amounts to a real distinction between physiology and psychology. Animal experience reduced to material actions and reactions dependent on the external senses alone would amount to little more than a 'vague and confused feeling of existence.' This is the empire of destiny in which no being can rise above the 'blind determinations of instinct.' Biran calls the force essential for human apperception 'hyper-organic' to distinguish it from the organic forces of the physiological world." Dunham (2016), 173.

localizable, external *things*, and thus as opposed to one another; herein the mind, in being unable to be located, halved, or physically manipulated, can't quite be called a thing. Biran's instinct to seat method in interiority is correct—the reason he is known as the father of French Spiritualism—but a Cartesian residue nonetheless remains in these later considerations. So long as mind and extension are separate *things*, analogy will always attempt an impossible abyss—we will see no reflection of ourselves in nature nor of nature in ourselves; we will remain always alien to it.

3.6 The Primitive Fact in Ravaisson: *The "Fact" Preceding Will*

At this stage, we may say that we have, in Biran, recovered a spiritual, nonmechanical force in effort—encountered through the *sens intime*—but that we cannot as yet make the leap into supposing that such a spiritual force obtains in anything beyond the human person. In other words, nothing yet grounds our ability to uphold Alexander's "measure of the self" as our principle epistemological criterion. In some sense, this leaves us no further than Descartes had taken us in that, in Biran's own assertion, the mind is not mechanism but spiritual (as we've already noted, though, this did not stop the mind and extension from being similarly objectified). When we get to the work of Félix Ravaisson, however, we find a bolder consideration of nature's governing theme, one that Ravaisson discovers through Biran's influence, and through an adjustment of Biran's central concept.

In Biran's argument, in so far as will supposes resistance, and resistance will, we are caught in a "vicious circle"—unless we suppose that the advent of consciousness or self-awareness finds itself in an internal force preceding this event, "an instinctive effort

that awakens voluntary effort.”¹⁸⁵ This however, fails to come into the impression (“that we name effort”) of the subject’s awareness and is thus an abstraction from intimate sense. This is a problematic move “for it undermines the specificity of the idea of effort in Biran’s philosophy.”¹⁸⁶ If our epistemology rests upon the strength of an internal intuition, it must, at the very least, remain within experience.

Responding to this, Ravaisson proposes instead a first “effortless tendency” in the subject—that is, a *desire* “that somehow touches and even constitutes the being that desires.”¹⁸⁷ But this, as Mark Sinclair notes, “is still not the ‘ultimate source’ of the will.”

In order to desire something “in some way we have to put into it its own goodness and felicity; we have to be aware of ourselves in it, to feel ourselves, at bottom, already united with it, and to aspire to reunite ourselves there again; this is to say that desire envelops every degree of love.” Love... “possesses and desires at the same time,” and it is the very condition of desire. Biran, then, is a philosopher of will, whereas Ravaisson is led, through an idea of tendency and desire, to a conception of love.¹⁸⁸

It is by this principle of love that Ravaisson is able to claim knowledge of this principle as a shared source in nonhuman nature, for it is by a desire for its origin that the mind itself

¹⁸⁵ Maine de Biran, cited in Ravaisson (2016), 26.

¹⁸⁶ See Sinclair, introduction to Ravaisson (2016), 9.

¹⁸⁷ Ibid.

¹⁸⁸ Ibid.

plunges into a knowledge of what is other than itself. “To search for a reason for everything when certain things, and precisely the highest things, are known immediately by intuition and analogy is a weakness of the understanding—weak undoubtedly because it lacks the intuitive force for it to reach the principle.”¹⁸⁹ The (effortless) impetus to go beyond ourselves is the condition which lends us the desire to know anything at all, one which seats us in love already and moves us “to reunite ourselves there again.” For Ravaisson, to know is to love. Being grasps itself in consciousness—so that being is a certain manifestation of consciousness; the mind and the material world are separate expressions of a unified order, a single creative movement of thought thinking itself. Ravaisson develops Aristotle on this point: thought, or existence, is an act, so that we may say all existence is *in action*: “If the stone itself exists, then there is also something active and moving in the stone.”¹⁹⁰ There is a principle, “a serpentine figure” winding its way through every nature. “This [movement] is what produces in us what we call our soul[,]... a metaphorical term that recalls the nature of wind or subtle air, mobile and powerful.... In beautiful things, the Italians say, everything appears to have been a breeze, *col fiato*. It is completely different from what appears to have been made with effort, *con stento*.”¹⁹¹

All of nature is made of more or less successful sketches of this supreme perfection, realizing differentiation, before a final integration.... At this supreme moment, thought, according to the Aristotelian formula, is thought of thought....

¹⁸⁹ Ravaisson (2016), 298.

¹⁹⁰ *Ibid.*, 299.

¹⁹¹ *Ibid.*, 302–3.

Fundamentally, therefore, nature is an edifice of thoughts. The species successively appearing before humanity emerges are increasingly more complete reproductions of the primitive design. By degrees the soul arrives at *thinking itself*, which is the *summum*: to think oneself, is also to will oneself, it is to consider oneself as thinking, willing, creating.... Thought is all that it can be only in its inner consciousness itself [i.e., not by any exit or dispersion from thought but by a deepening of *what thought is*, of thought thinking itself] where subject and object touch each other immediately, the one identical to the other.¹⁹²

We therefore have an analogical intuition of all things, an epistemology not only connected to a metaphysics but integral to it: we participate in, and are, what we know and how we know it—in other words, *natura naturans*: the love-impressed movement of existence, thought.¹⁹³ In this light, when we see this principle within a nature, as its principle, we are on some level ourselves (albeit imperfectly) *thinking thought*, growing toward an eternal moment of theosis in which we will no longer be encumbered by differentiations and passive impressions (each “a covering and imperfect image of this absolute thought”).¹⁹⁴

To put it another way, there is, as Ravaisson notes, a “genuinely aesthetic progress” in

¹⁹² Ibid., 300.

¹⁹³ A fair argument might be made that Ravaisson requires tweaking in order to save his creative reception of Aristotle from pantheism or onto-theology, that all is reducible to “thought” without true identity and thus without true relation (and thus without, indeed, “love”). But our purpose has been to grasp the “primitive fact” of consciousness, one Ravaisson well outlines as ecstatic (thought as identical in some way with love) and thus analogical in nature, an epistemological principle which will, in this study, be upheld in analogy in Alexander.

¹⁹⁴ Ibid.

nature by which we could say that nature imitates art; it tends toward—as reflected in the desideratum of our own act of thought—synthesis, unity, and integration at its ground.¹⁹⁵

3.7 The Prius of Aesthetic Sensibility: *Aesthetic Sensibility Reveals What Artistic Creativity Realizes, the Connective Tissue of “Nature Naturing”*

A theme becomes immediately clear. Life—present through our considerations of Alexander—is known through an aesthetic sense: we are attuned to the ontogenetic processes of reality that stand before the phylogenetic. The affinities in nature are perceptible to us through the contemplative, imaginative activities which the differences, or unknowns, seem to invoke in us. We begin with a “covering” or “imperfect image” and creatively move toward the *natura naturans* as it manifests in any particular thing, the manner in which the “way of life” moves through and communicates itself from each respective creature.¹⁹⁶ It is not that we move arbitrarily into analogically ordering the world; it is, rather, that difference beckons us into this creative task through the synthesis and integration impressed upon us by the desire that impels thought toward unity.

Let us further illustrate this point with the assistance of Vilem Flusser’s philosophical study of the mysterious vampire squid, a creature which lives within the depths of the ocean where light cannot reach. Flusser weaves a “fable” of the squid, penetrating into its nature and finding something eerily non-anthropocentric. However, he does

¹⁹⁵ There is an affinity between our own consciousness and instinct in this light. As Japanese primatologist, Kinji Imanishi notes, a better word for “instinct” may be “integrity.” Natures look for, or move toward, integrity—whether a cell that *knows* on some level what is edible to it or what the human being knows in undertaking a moral decision. See Imanishi (2002), 30.

¹⁹⁶ *Ibid.*, 39.

so, of course, within an anthropocentric posture. To know, for instance, what it means to be a being whose sexual organs share an orifice with the digestive system (whose groin is in its mouth, simply) requires an imaginative activity in which we better know the squid by becoming the squid within the formal integrity of a thought.¹⁹⁷ This does not exhaust our knowledge of the squid, nor even take us in the objectively correct (phylogenetic) direction of its nature (we might find in future that it is the groin and the ear that share that orifice); but it does extend one into the ontogenetic truth of being moving and creatively emerging. Knowledge is the dynamic movement of love, the “touch” of subject and object in thought. Fable is a useful term here, too, for we might say that every fairy tale is an encounter with the mysteries of nature. In the difference of a tree from ourselves, for instance, we encounter *life*, not a living person like ourselves, of course, but nevertheless *there*, and not completely impersonal (not a mere mechanism). One may say that the fairy tale deepens the truth of our encounter, plunging us into the difference that beckons and reunites us with the love which the primitive fact of consciousness (a desire to be reunited with that love) demands. It is therefore the aesthetic and imaginative senses that, before discursive and analytical thought, reveal the world; in the intuitions of an analogy or a fairy tale something truer is wrought than in those mechanical principles which speak to only a superficial layer of their essence. As Coleridge knew, particularly in his theory of polar thinking (a theory he developed from the pre-mechanist Giordano Bruno),¹⁹⁸ the forces of the world which hold the affinities of difference and similarity together are of an order

¹⁹⁷ Flusser (2011).

¹⁹⁸ See Gatti (2010), 209–10

beyond their material realities: imagination reveals the connective tissues of being.¹⁹⁹ As William Blake says, “Nature has no outline, imagination has.” If only imagination can descry these connections (for it is not deduction that makes them, but, as in Biran’s statement, a “natural induction”) then there is something about the mind which is fitting to the inner dynamics of the world, a reflection of itself back to itself—what Plotinus calls a kinship wherein beauty detects beauty, or soul, soul (or, for Alexander, the person detects *person-stuff*). Here is, as Ravaissou says, the “intuitive force that goes right to the principle.”

In order to know an object well it is necessary, Plato says, to consider it wherever it is most beautiful. And it is, indeed, in its most beautiful examples that nature best displays what it tends towards, and that all its parts best display their significance. Aesthetics, therefore, is the torch of science.²⁰⁰

But this is not merely, again, a one-way vision of the world: an aesthetic perception over against natural objects that, in themselves, perform by mere rote mechanism. Aesthetics is the “torch of science” precisely because nature reflects us in our freedom: it, too, is free. “Everything... begins from a principle of liberality, and the organic world is a witness to this: the living being tends towards its goal.”²⁰¹ Ravaissou sees art not as an imitation of nature *as it is*, but *as it ought to be*—it is an imitation of *nature naturing*, but even more

¹⁹⁹ Barfield (2014), 71.

²⁰⁰ Ravaissou (2016), 309.

²⁰¹ Sinclair, introduction to Ravaissou (2016), 22.

boldly, it is itself an expression of this movement, a participation in the same ontogenetic act.²⁰² “The perfection towards which nature tends is always more or less hindered: art eliminates the obstacles in order to show the tendency, the will of nature, in a state of purity; that is, instead of reality with its inevitable imperfections, it shows us the ideal and absolute truth.... Art only puts the fundamental law of life and organization in a more lively light.”²⁰³ Art, in other words, brings freedom to a higher pitch, to a greater theophany of its life. In this way, freedom bears a correspondence to the aesthetic sense as the beauty it apprehends.

[Art] realizes beauty by impressing on its works the characteristic that everything seems to be the effect of a reciprocal love of the whole and its parts, the culminating point of felicity; felicity consisting, following Leibniz’s definition, in finding one’s happiness in the happiness of others, its maximum is found where the other is the same differently, which is the divine nature.²⁰⁴

What art reveals here is that there is something profoundly *personal* in freedom, or in life itself. Freedom is not an untethered chaos but a participation—and what’s more, a reciprocity—within a creative order; there is a *felicity*, a joy which supposes another’s joy (or freedom). In art—as in the freedom which all nature, unimpeded, expresses—the free act supposes the company of another (who is “the same differently”), supposes the love in

²⁰² Ravaissou (2016), 310.

²⁰³ Ibid.

²⁰⁴ Ibid., 313.

which, again, we always already find ourselves at the root of the primitive fact, the effortless desire that impresses upon us the movement to be.

3.8 Conclusion

In this section we have, therefore, argued against the modern mechanical-materialist worldview as well as the Cartesian epistemology which enabled or supported its proliferation to the point it was—and still is—taken for granted. In place of this, we have argued for a more supple epistemological ground, rooted in ordinary aesthetic experience; such a ground returns us to intuitions of a unity in nature which is suggestive of an ontology and metaphysics of analogy and participation: freedom—beyond the mere mechanical—is a joy in which all things reciprocally partake. At the heart of Alexander’s “measure of the self” lies this intuition, one whose metaphysics must now be further explored in the following section where we must ask: What sort of “personal” and “living” reality are we in an aesthetic response to?

4. THE LIVING ANIMAL: ALEXANDER'S "MODIFIED PHYSICS"

4.1 Introduction

In the last section, we demonstrated the insufficiency of the mechanical-materialist worldview, arguing for an epistemological (re)turn to an analogical correspondence, a “measure of the self” in which what is known is known by a certain relationship or conformity of the mind and world. In this section, the task will be to take further steps to positively describe what nature must be in possessing this analogical depth. Time, space, and matter, for instance, will no longer be able to stand as precedent themes; insofar as everything is a sign of relation, and therefore of a more-ness beyond itself, our worldview must be converted to one in which soul and life take priority. This becomes clear in Alexander’s “modified physics,” a model for understanding reality that, we will argue, looks very much like the Platonic “world soul” or “living animal” (the latter, again, a term Alexander makes explicit use of). However, much in the way of the last chapter (where we sought an epistemological model best suited to the “measure of the self”), we will need again to “troubleshoot,” this time to refine what (or whose) “world soul” we mean, a dialectical movement that will land us upon the Christian Platonic concept of Sophia as the most fitting to Alexander’s cosmic vision.

4.2 Structure as Analogical Encounter: *What Sort of Theory (or Theoria) of Analogy Does Alexander Propose?*

Prior to any of these steps, however, we must first demonstrate that Alexander’s vision indeed bears an analogical dimension, given that it does not often fall in the remit of design

and architectural theorists to explicitly declare one (the landing zone, more often, of theologians).²⁰⁵ In this light, we must seek him out in his nuances, as, for instance, in his understanding of “structure,” where his description seems, in moments, to disregard the finer points one must make around the God-world relation but which nevertheless affirms an analogical sophistication. Indeed, the moments of trespass may even contribute to an analogical *encounter* that is more sophisticated than a sober theoretical pronouncement of analogy offers up. “In a very beautiful tile,” he writes,

or in the fragmentary Parthenon, as I gaze at it, I feel clearly as though I am looking through at heaven. Of course, this expression may seem far-fetched or romantic. However, in the conception I am describing, this should be understood as a literal and structural feature of material reality, not as a metaphor.²⁰⁶... Let me try to describe it in another way, to bring out this realistic quality. If there is indeed an all-embracing single plenum of which we are catching glimpses, whether we call it “I” or “self” or heaven, it is reasonable to ask, What is the structure of this domain? Could it, for example, ever be given a coherent mathematical description? The

²⁰⁵ The first “doctrine of analogy” may be traced to the Fourth Lateran Council (responding to the controversial views of Joachim di Fiore): “Between creator and creature there can be noted no similarity so great that a greater dissimilarity cannot be seen between them.” Canons of the Fourth Lateran Council, (1215), const. 2: “On the error of abbot Joachim” (<https://www.papalencyclicals.net/councils/ecum12-2.htm>). Aquinas furthered this understanding by distinguishing the analogical from the univocal and equivocal. For instance, we name God good “substantially” not in terms that our use of the name comprehends (in recognition of his greater dissimilarity), yet we do not name him good equivocally as though God’s goodness could mean, for instance, evil. Between these, we name God analogically, noting a proportional similarity that is, nevertheless, a recognition that the relation is one between ourselves and a disproportionate, incommensurate horizon (*actus purus*) that is a “real relation” only on the part of the creature. See *STI*.13.2.

²⁰⁶ This is a development of note between Alexander’s later writings and his earlier period of *The Timeless Way of Building*. In the latter period, “life” was employed as only a metaphor.

answer is that it could not, in principle, for a very simple and fundamental reason. Of necessity, those things which we describe as mathematical structures—insofar as we can describe them as structures—are not truly *one*. They are—in our description—*multiples*. They are, necessarily, made up of various elements with relationship between them. We have to use these elements in our descriptions, because it is only through using elements and relationships that we can describe the structure. But what is achieved in an *actual* thing when wholeness occurs? It is not some multiple phenomenon of interacting structure but actual unity. That means “meltedness,” “oneness.” This actual unity cannot be described as a structure. Yet it is this actual unity which is the source of life in the things we admire, and the goal of all our effort when we make a building or a work of art.²⁰⁷

Structural description is not itself structure, especially when the structure we seek to describe is a unity beyond description. Language, like number, is always *multiple*; it *refers*; it does not denote or define by an unmediated encounter with the “Blazing One,” as Alexander calls this “single plenum.” “Mathematics is not truth; it is a dream about truth.”²⁰⁸ Number is something which itself communicates the one but is not the one.²⁰⁹ This does not mean that measure and proportion fall out of an aesthetic sense, only,

²⁰⁷ TNO 4:150.

²⁰⁸ Donnelly (2021), 2.

²⁰⁹ Indeed, the Pythagoreans did not consider “one” to be *arithmos*, or number, insofar as it wasn’t a “countable”: as immanent to every number, it transcends every number. Eight, for instance, is nothing but eight ones, but eight is also a single figure with a *oneness* of its own—both composed of ones and partaking of oneness.

rather, that mathematical structure may (or may not)—especially where we are talking about beauty as it is found in space—measure up to this sense in any proscriptive fashion.

Alexander's cosmic view of structure suggests a Neoplatonism that includes mathematics as an element which serves beauty but does not denote it. In sensible beauty one stands before "the unmistakable signal of the *presence* of intellect (*nous*)," ²¹⁰ a "presence" or oneness that abides and "melts" the multiples but does not collapse into identity with them. The point is best expressed in the language of encounter, for whatever wondrous phenomena mathematics can explain, it has never sufficiently explained beauty as such—even when that beauty is the truth of a mathematical proposition.²¹¹

Mathematics, or for that matter, any mediatory language—as in the form language of Alexander's fifteen properties, addressed in the following sections—will be incidental (but not accidental) to our encounter with beauty. Beauty is beyond a description because beauty, like love, *inscribes* upon us a unity whose union ceases upon the advent of any sort of predication, even while predication (the poetic, architectural, or geometrical language used to describe the event) may be what guides us beyond words, into their apogee (the One or Word).

Alexander continues:

²¹⁰ Miles (1999), 38.

²¹¹ As Margaret Miles states, commenting on Plotinus, "Sensible beauty speaks for itself; it does not need mathematics to express its source," a point reminiscent of Blake's response to Thomas Taylor when Taylor attempts to demonstrate Euclid's fifth proposition: "'Ah, never mind that,' says Blake, 'what's the use of going to prove it. Why I see with my own eyes that it is so, & do not require any proof to make it clearer.'" Raine (1985), 48.

Let me now go back to the plenum of the I. Instead of calling it “I” or “self,” I may also assert that what is in this deeper domain is pure unity. I assert that this domain exists as a real thing; that it is parallel to the material world, but that it is inherently incapable of having structure, because it is pure “one.” But it is occasionally visible. At least it is potentially visible, some of the time, under some special circumstances. It becomes visible when the structure of a strong field of centers gently raises the lid, lifts the veil, and through the partial opening, we see, or sense, the glow of the Blazing One beyond.... What I am saying, then, is that this pure “one,” which may be like a blazing furnace or intense light, is partially available to our inspection. When I see the beautiful tile, or walk into a beautiful building, it is as if I just lift up the corner of the flap and temporarily see into that blazing “one.” It looks like heaven. The idea, then, is that every part of our physical world is shadowed by this parallel domain of I-stuff, and that each part of our ordinary world, if it is given the right structure, will lift the flap or open the door, and give us a glimpse into that domain.²¹²

There is a certain ambiguous seeing or visibility in this metaphysical dimension, or parallel reality, that Alexander describes: partial and potential but also actual and real. He speaks, at times, of a theophanic *immediacy*,²¹³ while at others he is clear about a needed

²¹² TNO 4:150.

²¹³ In his discussion of Schrodinger’s theory of colour, Alexander remarks, “But if it is true in principle that even a single color is capable of making a bridge between our normal experience and some realm of mind beyond matter—a kind of direct pathway, in which we see reality *directly* [italics mine]—then it is not hard at all to imagine that when the color becomes more intense, more harmonious, more whole—as it does in the

mediation: “It—the unity itself—is not a structure. But it can be seen, grasped, felt, perceived, only through the medium of something which is a structure.”²¹⁴ One might critique this position as one which at times falls into the confusion of an onto-theology or pantheism, or one without a sufficiently worked out philosophical vision to know the terms of play (i.e., as taking no care with an issue as delicate as the God-world relation). One might better read this, though, as the intuitive play between poles required to produce, or invoke, the analogical interval between ourselves and the Blazing One who is more than just the totality of all multiples. Beauty, for Alexander, is always both within and beyond our grasp. Rather than a *theory* of analogy, which always runs the risk of taking us outside of our intuitions, Alexander, much in the spirit of the Christian Fathers—who hadn’t yet composed a theory of analogy to help (or hinder) them²¹⁵—invokes this analogical shape in a description of the strange and porous character of the world he experiences: it is neither a dualism of world and ground nor a monism that, beyond the illusion of the phenomena, threatens a loss of self but a world in which a sense of these opposites coincide.

Alexander is not anti-theoretical. His texts, of course, are each composed around theories. Yet the precise interaction of the divine and the world remain outside the discursively theoretical; it finds better place, for him, in expressions of poetic knowledge that invite the reader into the mediated immediacy of the contemplative event. On the other hand, one might argue that this method stands at the height of *theoria*—

case of *inner light*—this bridge might become still more effective, and our capacity to see the ground directly, might be intensified.” *TNO* 4:236.

²¹⁴ *TNO* 4:239.

²¹⁵ Pavel Florensky argues that early ecclesial thought was like “poetry,” reflective of the liturgy in which the “goal” took precedent over any particular philosophical method (as an explicit analogical method can at times become). See Florensky (2014), 100–6, 130. Also see Pieper (1989), ch. 36.

etymologically “contemplation,” a witness to the divine—in which, in Simone Weil’s words, thought must “wait” and not “seek” anything, being “ready to receive in its naked truth the object that is to penetrate it.”²¹⁶ Thus, in Alexander, we don’t find analogy through explicit theoretical statements but instead find it again and again in the contemplative attention he pays to a reality that appears, were we to demarcate the terrain, analogical.

4.3 All Has Soul: As Analogical, Creation’s “Composition” Is Best Expressed by “Soul”

We call Alexander’s cosmic vision one of “soul” precisely because it invokes this unity, this depth of relation communicated within the structure, unquantifiable because preceding all quantity, with oneness abiding in each multiple. In this light, to call his vision one of “soul” or “world soul” is a species of calling it analogical. However, the emphasis serves to inflect “life” as not only in the deep but present on the surface, in the same way that the human soul is both mediated by the face while entirely present there too. The human soul is not localizable to a part but in being nonlocalizable manifests as (fully) present within each of the parts (the face, the fingertips, the eyes, the nose, etc.). In the same way, Neoplatonism understands soul as not *itself* life (or *nous*) but that organ (or hypostasis) which life brings forth (or emanates),²¹⁷ where intelligible beauty (form) is manifest in the multiplicity of sensible being. In this way, soul is not life, for life is form (coherence, eternal vitality); in so

²¹⁶ Simone Weil (2021), 61.

²¹⁷ The term “emanation” labours under the burden of a supposed “necessity” of the One to emanate, but it need not carry this connotation, as Aquinas assumed when making use of it as a helpful borrowing. Moreover, to suppose Plotinus applied such an understanding, as Gerson argues, is doubtful: Any “necessity” imposed on the One to emanate already corrals the One into a limitation that, threatening it with an epistemological bond of predication, still fails to apprehend the One as unlimited and free in its simplicity. Gerson (1993).

far as soul is the active presence of such an in-forming agent, though, soul, in partaking of life's (*nous*) likeness, has and communicates life. For Alexander, much like Plotinus, this integrity or metaxological fabric, of both a material and immaterial reality (and, further, an immaterial soul giving onto an immaterial *nous* giving onto an unknowable and non-predicable One), is not a structure to be found in the ensouled human person alone but reaches across and holds together the full cosmos. Soul is in everything. "Each there," states Plotinus, "has everything in itself and sees all things in every other, so that all are everywhere and each and every one is all and the glory is unbounded; for each of them is great, because even the small is great; and the sun there is all the stars, and each star is the sun and all the others. A different kind of being stand out in each, but in each all are manifest."²¹⁸ Here opposites coincide: the moment we encounter life *in* a thing, we simultaneously encounter it as reaching *out*, local but non-localizable, pertaining not only to a part but to a whole whose boundaries become indiscernible. Alexander offers a similar description:

Part of the structure of all life or order is that it extends beyond itself.... Life is not something local, a thing which merely happens in a painting or a person or a mountain. It is a relation between the thing where it occurs and the world beyond. It is a phenomenon which depends on the whole universe, and the extent to which the larger order of the universe penetrates and soothes the order of the part whose

²¹⁸ Plotinus, *Enneads* 5.8.4.6–11, cited in Gerson (1994), 56.

order we are looking at. In such a world, the order springs fundamentally, and ultimately, from the connection of each part to its surroundings.²¹⁹

A useful comparison here would be one to the church icon, which, as Johannes Hoff notes, is not intended as an isolated event enclosed by its material borders, but one whose contemplative value spills into its surroundings, revealing the iconographic reality (life) in every groove, stone, and tile of the building's structure, bringing it all to a further actuality and coherence (or, in Alexander's terms, to a "meltingness").²²⁰ Once we discern form, we discern soul: reality becomes animate with life. To put it another way, soul is the ontological level of reality that is not life (nous), as such, but where the latter is increasingly (or decreasingly) actualized to further unite the one and simple eternal nous.

Such an unquantifiable reality as Alexander suggests is not, of course, amenable to a culture overreliant upon "left-hemispheric" thinking (in the terms revitalized by Iain McGilchrist);²²¹ for what this "world soul" vision demands is not our "force" or "will"²²² (precisely the faculty which strives to reduce reality to exhaustive, simplistic definitions) but our attentive movement *between*—between the mediate and the immediate, the local and the nonlocalizable—to discover and intensify the personal or I-stuff hidden (by a *communicative* hiddenness) in every form. In other words, to perceive or contemplate

²¹⁹ TNO 4:326.

²²⁰ Hoff (2013), 85. As Hoff notes, this was a character of the icon, and most classical art, forgotten after the advent of the frame, in which painting is housed in a single and isolated point of view.

²²¹ See McGilchrist (2019).

²²² See Weil (2021).

reality in just this way, the experience must be such that we ourselves are revealed, too, as implicated in this fabric. Visiting a seedling bed in the Berkeley hills, Alexander writes,

But I want, now, to say something much more strange. I believe this existence of the life in me, the feeling of I that arose in me when I was in that place in Berkeley *is not, was not, secondary in the phenomenon, but primary....* It is rather as if the life which occurred in that place was already, *of its very own nature I-like*—in the thing, and independently of me. What seemed like life, the life which then caused an I-like reaction in me, was rather—I now believe—the submerged I-like presence in the place itself, which was arising, as if from the sea, touched, revealed, and then, because it was arising there, it also communicated with the I-like thing in me.... The very phenomenon which occurred in me, also existed first, I think, in the place, before I had anything to do with it or came on the scene. That is what I experienced as its life.²²³

To witness the relational unity in all things is to reveal the self in that witness. Every “there” discloses the “here.” Further, not only are we implicated in this heightened moment of contemplative awareness, but such a moment compels our practical activity. We are iconographers of every mode, seeking to creatively strengthen this fabric, “to make a thing which does manifest spirit, which shows us feeling, which makes God visible and shows us

²²³ TNO 4:66.

the ultimate meaning of existence, in the actual sticks and stones of the made thing.”²²⁴

For Alexander, this is not an impersonal journey which culminates in a transcendent departure of our person or humanity but one reached only through “humanness”—to the depths of what is “personal” precisely because what we “objectively” meet is “*also entirely personal in nature*.”²²⁵

Thus to deem the world an event of soul is not to determine its static composition, as in the conclusions sought by mechanical-material methods, but to acknowledge the world as irreducibly alive, as a world which presumes a purposive, teleological encounter that is simultaneously revelatory of the self and the world to which it relates. It is not merely a composition of quantifiable stuff, we discover; insofar as it is “I stuff” or “person stuff” the “stuff” of reality cannot be analytically grasped. Contemplation is our epistemological key because contemplation has a topological role in this metaphysical stuff. Indeed, it would not be incorrect to say—as we will see below in our critical discussion of the world soul—that the nature of stuff (*natura naturans*) is to contemplate, albeit different natures will manifest this in different ways.

4.4 Alexander’s Inversion: Alexander’s “Modified Physics” and the Inversion of Space

In this epistemological and metaphysical reversal of the assumptions in mechanical philosophy, the main themes of our physics shift from time, space, and motion to, simply, life and soul; the former set takes ontological residence in the latter, finding a coherence

²²⁴ TNO 4:303.

²²⁵ TNO 4:300–302.

that the mechanical philosophy could never quite deliver (Newton's constant and needling intuition). In this new world picture or "modified physics" the real has a different character. While mechanical philosophy consigns art to a subjective compartment of ultimately meaningless activity, in Alexander's reversal, the datum of art, or our sense of beauty, demands we reconstitute our suppositions about the physical world. "To make all this possible," writes Alexander, "the matter, the ground in which this is happening, the character of space itself—that must be different in its composition.... What I have suggested is that space is some sort of pliable material, *which itself comes to life more and more....* This is where the new idea differs from the old [mechanical view]."²²⁶ If this is true, then the "character of the whole world and our relation to it" is drastically different "from what we have assumed for the last three hundred years."²²⁷ Indeed, it supposes a reversal, a shift in assumptions of what "compose" matter, space, and time. Alexander outlines a "modified physics," a succinct list of eleven "new assumptions" that offer a description of a world soul-like (or as we will qualify below, a sophianic) cosmology:

1. *Matter-space is an unbroken continuum which includes everything, both matter and the so-called space around it, all at the same time.*
2. *In varying degrees, any given portion of space may be more whole or less whole, more alive or less alive, more healed or less healed, connected or broken, separated or not-separated.*

²²⁶ TNO 4:300–302.

²²⁷ TNO 4:328–30.

3. *Whenever we undertake an act of construction we have the ability to make the world more alive or less alive, more harmonious or less harmonious.*
4. *Everything matters.*
5. *Value is a definite and fundamental part of the universe, and of the scheme of things.*
6. *Ornament and function are indistinguishable.*
7. *Matter itself is not a mechanism: It is a potentially soul-like materiality which is essentially what we call self.*
8. *If self or I is woken up whenever living structure appears in matter, what we think of as value may then be described as the protection, preservation, nourishment, of the precious self of the universe.*
9. *The nature of space-matter, being soul-like, is such that the more whole it becomes, the more transparent, the more it seems to melt, the more it realizes itself, releases its own inner reality, the more transparent it becomes, the more transcendent.*
10. *Thus art is not merely pleasant or interesting. It has an importance that goes to the very core of the cosmology.*
11. *The unfolding of the field of centers, and the unfolding of the self, is the most fundamental awakening of matter.²²⁸*

²²⁸ TNO 4:330-331.

If we apply these qualities to the world, we find something new in it. Indeed, if the world has everything to do with how we think it, if matter takes root as soul in *nous*, as a sensible (albeit not reducibly physical) expression of *nous*, then the world is *first* in consciousness, in how we perceive it, so that “every change of consciousness changes the world,” as Kathleen Raine puts it.²²⁹ Once, after a lecture, a student responded to Alexander, “I still don’t really see why all this has to be discussed. Isn’t it enough to understand the nature of living structure thoroughly, and to try to make life in our buildings? Why do you insist so strongly on the fact that we also need to change our picture of the universe?”²³⁰ For Alexander, this student had yet to understand what this vision and method entail; by still presuming the mechanistic worldview, he paints only an allegory upon the world, personifying, as it were, a lifeless piece of dust—a flourish or indulgence that has merely pragmatic (fortuitous, chance-like) benefits in that it seems to turn out smart looking buildings. The student, as Alexander remarks, echoes the sensibilities of physicist John Polkinghorne who “said at one time that everything is OK as it is, and that it is easy enough to reconcile a materialist conception of matter with a spiritual conception of life. All this really said was that we have no understanding of the connection and that—from an intellectual point of view—there *is* no interaction.”²³¹ For Alexander, the materialist and spiritualist worldviews do not complement one another, nor can they live side-by-side in their own independent frame of reference; rather, this world picture is inadequate because

²²⁹ Raine (2021), 18.

²³⁰ *TNO* 4:332.

²³¹ *TNO* 4:333.

it leaves the self and matter “uncoupled.”²³² There is a contradiction here that, rather than leading us toward a coincidence of opposites that rivets us beyond discursive understandings, thwarts all understanding. The uncoupling which this sensibility permits thus proceeds from a contradiction (or uncoupling) at its own heart. To be mechanists we must make an uneasy peace with an existential contradiction. And this particular contradiction, importantly, is not exclusive to mechanist assumptions; spiritualists make it too. Alexander rejects the view, for instance, of those like George Wald, for whom all matter is ultimately mind in a way which leaves no viable connection between the two. “Consciousness,” Wald states, “is altogether impervious to scientific approach.... Consciousness is the essential condition for all science, science cannot deal with it.”²³³ This leaves us again with a dualism, a contradiction that cannot be resolved. Alexander counters this:

What I claim is precisely that [consciousness] *is* connected to the structure. I claim that the field of centers, or some version of it, is a recursive structure in space, which does precisely serve the function of being the bridge between matter and consciousness, between matter and mind; and that it is, indeed, when these extraordinary living structures arise in space, that mind awakens, that space and matter open a window to the mind, and that the great self behind all things actually comes within our experience and our reach.²³⁴

²³² Ibid.

²³³ Wald, quoted in *TNO* 4:332.

²³⁴ Ibid.

Alexander argues that matter-space and self are not two but “two sides of the same thing.”²³⁵ To demonstrate this, one could, on the modern scientific approach, point to certain experiments, which Alexander himself lists, suggesting the I is attached to the “back of” or is “inside” matter.²³⁶ But such results, however empirical, if they do not boil down to a reductive certainty in a material cause, will always fail to satisfy the mechanist; they are persuasive, at best. It is the wrong place to pin our hopes precisely because there is no hope (for the mechanist) within this “space.” The mechanist world in which one wishes to conduct experiments—to isolate meaning as one might a magic spell—is a world that doesn’t actually exist in that space, for the mechanist world is always (like matter) abstract. The science which Alexander points us toward, however, is one in which space or place are always already *within soul*. Regarding matter, George Berkeley states,

Though we should grant this outward substance may possibly exist, *Yet where can it be supposed to be?* That it exists not in the mind is agreed and that it exists not in place is no less certain: since all (place or) extension exists only in the mind.... It remains therefore that it exists nowhere at all.²³⁷

William Blake puts it similarly (likely influenced by Berkeley on this point):

²³⁵ Ibid. 330.

²³⁶ *TNO* 4:337. Alexander lists a few instances in detail: the Schmidt effect, events of telekinesis, the quantifiable effects of music (of the “living structure”) on the listener.

²³⁷ Berkeley, quoted in Raine (2021), 35.

Mental things are alone Real; what is call'd Corporeal, Nobody Knows of its
Dwelling Place: it is in Fallacy, & its Existence an Imposture. Where is the Existence
Out of Mind or Thought? Where is it but the Mind of a Fool?²³⁸

This might strike us as an extreme, solipsistic idealism—that opposing horn of the modernist dilemma—away from which Alexander attempts to lead us, but there ought not to be anything like solipsism read into the claim. It is the most basic Neoplatonic tenet: If spirit or life or form is the *nonlocalizable* principle of reality, then matter itself cannot be the location or “place” in which that principle settles.²³⁹ It must rather be that matter, settled in this nonlocalized principle as its own principle for being, has no reducible place or space to call its own. Place and space are not “out there,” as if their existence were in the climes of dead matter; place is in *nous*—the soul’s mysterious root; and the root of *nous* is in the one. And if the soul is in *nous* then it exists, indeed, as Berkeley states, “nowhere at all” because *nous* exists beyond place as the *form* from which all space and place proceed. Over against any solipsism, none of this is an emanation out of our own minds, in which case there would be no dynamic, no surprise, no event between ourselves and alterity; rather, all participates in mind (*nous*), in the one, in soul—all of which are conceptual distinctions made to apprehend a single, unified, eternal, instantaneous

²³⁸ Blake, quoted in Raine (2021), 35.

²³⁹ In terms of physics, even the ground upon which we stand conceivably has no “base” if we agree with Jonathan Schaffer’s thesis of “infinite descent.” Schaffer (2003). And were we to suppose a fully localized base at the quantum level, we would, of course, have to answer to quantum entanglement, which seems to assert an ontology of nonlocality.

spiritual reality. “In human terms, it [this origin or place we touch] is down to earth,” writes Alexander, invoking again the analogical terrain of the soul. “It is the core of the earth and child in me.... What it touches is beyond reason, and before reason. It may be a connection to some realm, where I no longer am, and where I shall always be.”²⁴⁰

Let us extend, too, the analogy that Alexander invokes in his theme of the “measure of the self” and say that this Neoplatonic *nous* in which all things dynamically participate is *also our mind* in that one’s own mind is never entirely separate from *nous*; it is the deepest subjectivity of the self in which we connect to the true universal self. It is in this insight that (Neo)Platonism may take Protagoras’s famous statement “man is the measure of all things” and invert it so that the words remain the same but the meaning shifts. Alexander’s “measure of the self” does not place us against nature but settles us into a common *natura naturans*. We, you and I, “are thus instances of the field of centers or—if we like to see it more deeply—instances of the self-stuff of the universe, making its way, clumsily, from the trap of matter”—that is, matter as that spiritual level of reality teleologically oriented toward union but in need of actualization or personalization—“to the light of day.”²⁴¹ But we might, too, put the ball in the other court and claim that it is in fact the mechanist who becomes the solipsist, an island constructed by contradictions and abstractions that do not exist as such (“space,” “matter”). In so far as his “measure” is not one that seeks the anamnestic center “of the self” but a measure grounded instead within abstractions (in phenomena that have no ground), the mechanist operates as if he

²⁴⁰ TNO 4:70.

²⁴¹ TNO 4:334.

himself did not exist. In this light, in line with the “fool” Blake describes above, we can say that his own “existence” becomes, for his methods, an “imposture.”

4.5 **Alexander’s Inversion:** *Alexander’s “Modified Physics” and the Inversion of Time*

As we have discussed, analogy is implicit in Alexander. In his approach to creativity (the method he calls “generative building” or “structure-preserving transformation,” which we’ll cover in the following section), we are not talking about a physiological autopoiesis but an ontogenetic unfolding in which potent in things is a more actual reality, out of which depth comes further creative iterations as expressions within a form. Importantly, this does not just give life to the spatial character of the world, no longer seated in “matter” as such, but implicates a new orientation in our consideration of its temporal character. In his modified physics, Alexander stresses “time’s asymmetry”: “One of the most unsatisfactory aspects of Cartesian physics has been the so-called symmetry of time: the fact that classical equations do not, for the most part, distinguish between forwards and backwards.... Our world picture would be far more satisfactory if there is an overall natural sense in which ‘forward’ and ‘backwards’ are essentially different.”²⁴² Alexander, departing from the Cartesian assumption of time’s linearity in which (as for Locke) every moment upon that line has equal valence (or equal lack of valence), argues for a vision in which time is not an autonomous force we are subject to but one which through us *becomes* or finds hypostatization. Time, like space, presents itself as a dynamic relation, one we

²⁴² TNO 4:327.

encounter interiorly, intuitively, in duration.²⁴³ Time lives in us as we must live in it. We are, on one level, subject to it, but on another we are not, precisely because we rise above time as knowers of it. Structure-preserving transformation is the work of soul within soul, the essential human activity in which we stretch ourselves across these analogical distances (the distances of deepest intimacy) in order to unite soul—what is already united eternally but which gives itself over as if for a second time in order that we might for ourselves reveal being's unitive vitality.

4.6 **Anthropocentrism:** *Does Placing the Human Person at the Center Place the Human Ego There, Too?*

We have therefore described Alexander's cosmic reversal in which he rejects a mechanical worldview in place of something like a world soul, deploying analogical language as well as his own terminology (life, centers, structure-preserving transformations, etc.) in order to invert our perception of matter as subsequent rather than prior to mind or *nous*. The result of this is a world in which time and space *become* what they are through an attending soul which personalizes it. There is, therefore, an anthropocentric aspect to this vision that might today give us pause—and might also complicate a metaphysical understanding of the Platonism we have sketched.

Toward the first point, one might ask, Isn't it a greater humility we ought to be seeking, one which recedes from, rather than puts greater emphasis upon,

²⁴³ The allusion here is to the Bergsonian "*durée*," an understanding of time which sees it not as an extrinsic force of discrete moments but an intrinsic flow of nonidentical moments grasped in intuition. See Bergson (1910).

anthropocentric models? We have already noted that in Alexander's "modified physics" the "measure of the self" does not propose an egocentric method but, to the contrary, puts us in touch with a source common to all nature. Any instance out of *The Nature of Order* provides an example, as in the following, where he describes a botched coffee table:

A few years ago I made a coffee table for our office. I made a kind of stand which was to be bolted to the wall, and which was going to be a place to put the coffee machine, cups, and so on. This thing was exactly one of those kinds of things which *fails* to have the quality which I am describing now. It was quite practical. It had a nice shape. It had some good centers, and so on. If I had to use it in a textbook for centers, I could show how it has centers in it in all the right places. But its spirit was very bad. The thing was made to look at. While I was making it, I was half consciously making it to be admired—by my students, by my colleagues, by people who might come into the office.... And how did this "bad" spirit show itself in the thing? It showed itself in the fact that this thing stood out too much. It was not part of the wall. It was not part of the office. It drew too much attention to itself. As a center, it shouted slightly too loud. It was not really arising out of the structure which was there, and gently embellishing it. It was so humble in the way it was made, slightly rounded corners and all, that it was screaming for attention.²⁴⁴

²⁴⁴ TNO 4:309.

In the “measure of the self”—that is, in the way in which we unfold or transform structures—a false humility will not do. The spirit of our intention will live on into the artifact, placing it out of touch with its environment by failing to connect with the metaphysical source of life itself. Just as every nature is made as gift, so must every artifact express this gratuity. “How can I set my mind in this egoless direction? At every step in the 10,000 steps during the making of a building, I am always, at each step, asking which of the things that I can do next is the one which will be the best gift to God.”²⁴⁵ What the artist, in creating, is ultimately looking to express is a spirit which balances both reception and activity; as the Zen monks say, the master is neither the teacher nor the student but is the wisdom which becomes present in this active receptivity, or invocation of life.

4.7 Problems with the World Soul in Neoplatonism: *The Lack of Reciprocal Gift (and Therefore of Love) in the Neoplatonic Model*

Presenting greater difficulty than this issue, however, is the one that unsettles a purely Neoplatonic view. What makes Alexander’s method anthropocentric is not merely his “measure of the self” but what issues from this metaphysical claim: an economy in which an active, receptive, creative agent (the human person) awakens what is latent (and therefore enfolded in an eternally participated source) in the world of things: “All matter-space is linked to a single blinding unity, but with the added assumption that different regions of the matter-space are linked more or less to it, according to their structure; and

²⁴⁵ TNO 4:310.

that as the matter-space becomes more organized [by, say, the artist or architect] it becomes *more* and *more* strongly linked to this ultimate ground which lies beneath it, or inside it, or throughout it.”²⁴⁶ In this economy, a gift economy in which the latent but more actual reality is relationship (communion, unity) both as means and ends, the human stands in the center—as the center amid all centers, there to draw creation together *through herself*. In this light, the person and the nonperson (that has in its seed a more actual personal reality) have fates bound to one another; they are teleologically *for* one another, a complementary movement that implies a narrative or historical arc in which time is not infinitely cyclical, but asymmetrical and creatively new. In other words, in Alexander’s model, we assume that the world itself has a purpose, that the time that moves over us and through us *leads* us somewhere; it presumes an underlying anticipation.²⁴⁷

But to suppose a world soul of this particular dynamic does not square with the Neoplatonism that has provided us with the doctrine. How so? To be sure, the human person is exceptional in Neoplatonic thought: the human bears the contemplative nature that enables her, through contemplation, this highest level of created perfection, to return to her origins in the One. In her soul are the *logoi*—that is, the “reason-principles” that are all in all in *nous*; through recollection of these, “she may truly make [them] her... own and become unified with them. The soul is as if pregnant with them, feeling an urge to work with

²⁴⁶ Ibid., 326.

²⁴⁷ In ch. 7, we will see there are problems to a perfect conception of teleology in Alexander, but not unfruitful ones.

them and get to know them.”²⁴⁸ Nature, on the other hand, looks different. For Proclus, a stone has no “vital” or “cognitive” appetency that allows a movement toward higher principles or a consciousness of the good. It lacks all but an appetency that “consists in [its] fitness for the participation in [its] cause.”²⁴⁹ This amounts to a subtle or minimal contemplative activity, proper to nature in that nature is the terminal end point of the One’s emanation; that is, it is the point in which perfection becomes so diminished that it no longer “spills forth,” where the production of any further level of being ceases. Because nonhuman nature has no cognitive faculty that allows it to look inward in a process of *anamnesis*, this minimal contemplative activity is strictly external, a “self-contemplation” which allows a cell to replicate, or a rock to accrete material; in other words, nonhuman nature possesses the minimal level of contemplation necessary to persist in its integrity, or for vital life to reproduce. The perfection of this act of “projection” (rather than “recollection”) is one which, in spite of its externality, removes it inwardly from alterity, whereas the recollection of the human being is one that draws it outward into an alterity that is not separate from itself. Yet, the human being’s fate is not bound to nature *per se*, nor the latter to the human being. There is not, in other words, a gift economy in this cosmic cycle of procession and reversion but an everlasting solitude between natures subsisting within this hypostasis of soul,²⁵⁰ straining on some level toward contemplative

²⁴⁸ Chlup (2016), 145, citing Plotinus, *Enneads* 6.17–18; 7.19–20.

²⁴⁹ Proclus, *ET* 39.9–10.

²⁵⁰ Though, for Proclus, unlike Plotinus, Nature, in its imperfection and difference from the activities of Soul, is ascribed its own hypostasis. See Chlup (2016), 144.

activity—*desiring* the perfection of their formal causes (i.e., reversion)—but not in a way which suggests a reciprocal horizontal awakening, and thus an historical arc.

“[The world] remains deprived of any sort of independent task,” writes Bulgakov in respect to this point. “The Absolute in relation to it remains completely passive; it does not know it, it is the sacrifice of its permissive fullness—in a certain sense the wrong side of it. The world *arises* of necessity in the Absolute, like its shadow, but in this world no sort of perfection happens; ontologically there is in it no history and no eschatology.”²⁵¹ Bulgakov correctly notes the deeper problem at issue. If there is no essential reciprocity within creation and between creatures, the problem rests in our understanding of the One, specifically in an unintentional emanation that does not “worry about its further course.”²⁵² The One, as Chlup notes, allows its energy to flow while “that energy has a natural tendency to revert upon its source by imitating it. In this manner, the One spontaneously organizes all the lower levels by being a model and teleological cause of them—just like the unmoved mover of Aristotle that all things tend towards.”²⁵³ Contemplation always moves *up*—the soul contemplates the intellect, the intellect, the One—so that the perfection that spills forth, or *down*, never *knows* or “worries” about that which is below; by the perfection in its own essence, whether intellect, soul, or nature, it will revert toward the One and thereby organize itself. While relationship is a strong theme of this model at every level of the vertical participations of the One’s emanation, there can be no horizontal relationships of love, nor the relationships of love which condescend to that which is

²⁵¹ Bulgakov (2012), sec. I, ch. III.

²⁵² Chlup (2016), 144.

²⁵³ Chlup (2016), 68.

below. All remains, ultimately, impersonal, cancelling out the “strange” (Alexander’s description) teleological dimension of gift and love that comes through in Alexander’s numerous insights.

We might, on some level, though, hedge this total impersonality in the Neoplatonic system by noting Plotinus’s surprising ascription of “love” to the one,²⁵⁴ not as a predication of it but as identical with it, the reason for which all things (in their respective order) contemplate and long for it. As Lloyd Gerson states, “If the Good were not eros itself, the presence of eros in everything else would not be a desire for the Good but for something else.”²⁵⁵ For Plotinus, however, love does not result in a different understanding of the One as, for instance, intentional or personal in its outpouring emanation; it is, instead, the effect of divine self-love—the prime mover now the prime lover—from which all subsequent hypostases emanate.²⁵⁶

On one level, one could argue that this interpretation of an impersonal One makes sense within its own conceptual terms. A transition to a personal divinity is not one, after all, that comes through metaphysical hairsplitting but through emotional surrender, captured so well by St. Augustine: “I took too long to fall in love with you, beauty so ancient and so new.”²⁵⁷ In beauty, we come into a dialogical I-Thou encounter. But on another level, one might argue a grain of sense is actually missing from Plotinus’s system in that

²⁵⁴ Plotinus: “And it [the Good] is itself an object of love and love, that is, love of itself, inasmuch as it is only beautiful by reason of itself and in itself.” *Enneads* 6.8, quoted in Gerson (1995), 258.

²⁵⁵ Gerson (2020), 259. This notion of eros is distinct, of course, from Diotima’s in the *Symposium* (210a–12a), where eros indicates not an identification with the Good but a lack of perfection in the Good (and thus a mere motivating force). Once the Good is fully attained, eros terminates.

²⁵⁶ Plotinus: “And indeed whatever is present to itself would not be so if that which is present and that to which it is present were not one or identical.” *Enneads* 6.8.

²⁵⁷ Augustine (2018), 312.

love as a meaningful term becomes equivocal in the framework he lays out. Love has no sense, nor definition, that fails to include love of another, an alterity beyond the self. In this respect, there is no possible analogy to grasp onto between creaturely love and the self-love of the One. Here, however, the Christian Trinity can make *philosophical* sense of the problem by deepening how we think of the divine being: not as a monad but a triad—that is, an eternal relation, a singularity that is also irreducibly a relation of self-giving. And we may argue, too, that self-love is not itself thinkable save upon trinitarian grounds, for a true self-love is one which recognizes a tacit third: I love the gift of myself that I am given and therefore love he who has given it to me. I am (and am loveable) because I am *known*. Any other kind of love is egocentric, and therefore not properly love at all.

4.8 Problems with the World Soul in Schelling: A Personalist Readjustment of the Impersonal Neoplatonic Economy (At the Expense of Analogical Structure)

Schelling intuited something of this when he endeavoured in his *Naturphilosophie* to shift the world soul from a strictly Neoplatonist schematic toward a personalist one. “To be personal, which is, as Schelling repeatedly stresses, the most godly conception of God, God has to *reveal himself* and not simply *be*.”²⁵⁸ In other words, a god that does not put itself in relation to what it produces or creates—that does not *know* it—will always be a god whose love does not square with the desire that attracts creatures toward it. The problem, however, is that Schelling does not entirely rid the divine of its indifference or

²⁵⁸ Schindler (2012), 224.

impersonality:²⁵⁹ in God, for Schelling, there is both the Ground and the Non-Ground, the latter of which endows the world with an “ownness” or darkness which (tragically) distinguishes creatures from one another and from God.²⁶⁰ It is, in other words, an indifference that makes a difference,²⁶¹ an unsalutary individuating principle that has a certain priority in God’s being, preexisting Godself. “The primal unity is a dark, Schopenhauerian will,” comments Bulgakov, “subsisting within divinity as a *prius* of God himself, and which, in its disintegration and its fall away from Divinity, gives rise to the world, but, at the same time, to God.”²⁶² In his pure divine love, God must overcome this *Ungrund* by tying all things together in a single unity in which he realizes both himself as well as creation, so that God truly *becomes*: “creation and theogony are... one and the same.”²⁶³

In the stress on both relationship and freedom, Schelling collapses the identity of God and creation into a pantheistic unity, a move, moreover, that he does not resist. “God is not a god of the dead but of the living,” he states, emphasizing God’s necessary passibility and inchoate perfection. “It is incomprehensible how an all-perfect being could rejoice in even the most perfect machine possible.”²⁶⁴ “The essential feature of this new pantheism,” Jan Olof Bengtsson writes, “is that its free, dynamic life is the life of persons—both on the level of man and of God.”²⁶⁵ Pantheism then, for Schelling, is “congruent with

²⁵⁹ Schelling: “In the Non-Ground [Ungrund] or the indifference [Indifferenz] there is indeed no personality.” Schelling, cited in Bengtsson (2006), 144.

²⁶⁰ Schelling (2020), 77.

²⁶¹ To play upon Gregory Bateson’s famous phrase: “The difference that makes a difference.”

²⁶² Bulgakov (2020), 84.

²⁶³ Schindler (2012), 225.

²⁶⁴ Schelling, quoted in Bengtsson (2006), 144.

²⁶⁵ Bengtsson (2006), 144.

the personal god.”²⁶⁶ Personality, as the condition of freedom, must therefore *become*, and become *history*, as both creatures and God work across time and space to blot out that first dusk of the *Ungrund*. The world soul, as that tissue which unifies creatures across time and space, thus becomes an ambiguous, if not redundant, category: Schelling attempts to place in God the negative and positive oppositions that coincide in being so dramatically that this attempted coincidence (or reorganized Hegelian dialectic) dissolves the very dynamic freedom he wishes to uphold. Analogy is lost, in other words, and with it the trinitarian ontology Schelling posits (for with no analogy, there is only the horizontal, never the vertical “higher word,” *ana-logos*). In his *Philosophy of Mythology*, Schelling describes the world soul as “what God is and at the same time [what] is different from him. She is the mediator, who leads the divided and material being to eternal unity.”²⁶⁷ But without the inclusion of analogy—or, what is the same, a trinitarian relationality that links horizontal relations vertically in the Spirit—her difference from God is unclear. The personality which we argued had to be ascribed to God (in order that God’s love not be equivocal nonsense) cannot quite be logically held in Schelling’s metaphysics. Analogy collapses with the collapse of the world soul. There is no interval to distinguish the orders; and to distinguish this pantheism as, say, a “personal pantheism” cannot quite get us out of the muddle.²⁶⁸

²⁶⁶ Ibid.

²⁶⁷ Abu Deeb (2025), n27.

²⁶⁸ This is terminology Teilhard de Chardin employs to qualify his own pantheism, which, better than Schelling’s, achieves analogical nuance. See Teilhard de Chardin (1971).

4.9 The World Soul in the Sophiology of Bulgakov: *The Personalist, Analogically-Sustained Vision Most Fitting to Alexander's Metaphysics*

We have, then, looked at two theoretical models in which to understand the world soul, neither of which is adequate to uphold Alexander's anti-mechanist metaphysics (or "modified physics"); in one, a lack of divine personality (i.e., descent, relationship) calls into question the love which knits together all the potencies (or eternal actualities) in the unity of the world soul; in the other, an inability to ascribe to God an analogical interval confounds the soul's very necessity and purpose. While later speculative theists (e.g., the Boston Personalists)²⁶⁹ went on to further develop this understanding of a passible God as the condition of God's personality, the so-called Russian Sophiologists would seek more supple understandings of the metaxic entity of the world soul, finding in her something personal by understanding her in her biblical analogue: God's Wisdom, or Sophia.²⁷⁰ Before we discuss, in particular, the sophiology of Sergius Bulgakov, the last exponent in this line whose writings on Sophia were the most developed, let us first recapitulate Alexander's intuitive vision and cosmic reversal so that we might position ourselves better to lend it Bulgakov's philosophical and theological ballast.

In his *Nature of Order*, Alexander makes the claim that there is, in the nature of matter, a personal and ultimate I-like character which increases as it becomes more and more linked, or transparent to, this ultimate ground which "lies beneath it. . . inside it... or

²⁶⁹ See, e.g., Hartshorne and Brightman (2009), or Bowne (1908).

²⁷⁰ Albeit, Soloviev and Berdyaev wander closer to Schelling's thought than Florensky or Bulgakov will. Whereas Soloviev will often place Schelling at a critical distance, the influence on Berdyaev will—as Newsome-Martin indicates—prove fatal. See Newsome-Martin (2015), 23.

through it."²⁷¹ Not only does this connect centers in space to this ultimate center, but implicit within our own activity as we contemplatively unfold these centers in space, we ourselves come to greater fruition as centers ourselves, connected to this ground. "There is available to us a form of transformation that, each time it is applied, extends and enhances the wholeness of the land, whether rural or urban. The act of transformation also puts us in touch with ourselves by making the land of the Earth become more and more deeply connected to our selves. An environment, when made in this way, may even be regarded as a vision of our inner selves."²⁷² The *telos* this results in is one in which the human is not just a center amongst other centers but has a more active role upon a (largely) passive cosmos in conducting it toward its own proper *telos*, interweaving human and nonhuman natures (*pace* Plotinus) into something symbiotic and complementary (a complementarity for which Maximus the Confessor would deem the human being the "workshop" of creation).²⁷³ Alexander's reversal of modern mechanical physics here suggests something personal in nonpersons, something I-like in matter itself; he does not lead us to think that there are physical human tissues within matter but that the person-stuff which obtains in the nonhuman world is a metaphysical encounter, an *anamnesis*, a metaphysical memory through which the connections between things are actualized—brought to *life*. In this way, the unity of all things (i.e., the world soul) is recollected within the human soul—mirrored in the "measure of the self"—because within the soul this

²⁷¹ *TNO* 4:326.

²⁷² Alexander (2016).

²⁷³ For Maximus, the divisions in nature (sensible/intelligible, created/uncreated, heaven/earth) are each resolved in the human being, as revealed in Christ. Maximus, (2014), 1:105. Eriugena makes the same point: Eriugena (2020), 369.

whole unity already is, a whole reflecting back a whole, nature recapitulated in every human person. Nature and the human person, in other words, unfold together, an activity whose contours we may call, with Merleau-Ponty, the “flesh of the world,” a flesh which always includes in its texture reference to a divine third (or the “verticality” analogically invoked in the “horizontal”).²⁷⁴

In Bulgakov’s sophiology, there are many points of parallel. Describing the “sophic economy,” or the *natura naturans* of creation, he writes,

Humanity is and always remains the unifying center of the world in the eternal harmony and beauty of the cosmos created by God. The empirical world is immersed in “process,” in time and space, in history, and as such is imperfect and disharmonious; yet, like humanity itself, it is never wholly separated from a higher metaphysical reality, from the divine Sophia that ever soars above the world, illuminating it through reason, through beauty, through... economy and culture.

Natura naturata with its mask of death still remains a creation of the *natura naturans* and, though they are *in actu* separate, they remain eternally linked *in potentia*. The world as cosmos and the empirical world, Sophia and humanity, maintain a living interaction, like a plant’s nourishment through its roots. Sophia, partaking of the cosmic activity of the Logos, endows the world with divine forces, raises it from chaos to cosmos. Nature always perceives her reflection in man, just

²⁷⁴ See Glen A. Mazis (2016), 11. Merleau-Ponty stressed a theme similar to the coincidence of opposites in his theory of compossibles, which bore all the traits of analogy but leaned toward a mystical unity he would never quite claim evinced a divine third.

as man, despite his faults, always perceives his own reflection in Sophia. Through her he takes in and reflects in nature the wise rays of the divine Logos; through him nature becomes Sophic.²⁷⁵

In this description, Bulgakov stresses, alongside Alexander, humanity as a “unifying center” within the eternal harmony; a world which is in “process,” unfolding *in time and space* (i.e., an historical arch in which we presume “time’s asymmetry”); that the world of lifeless nature is a “mask of death,” but one which, when pulled back, reveals a “living interaction,” or life, insofar as eternity is always at its root. As the human is reflected in nature, so nature reflects the human (the I- or person-stuff). While this all coincides, the language of “Sophia” adds something new, and even (some critics have argued) something cumbersome for being, perhaps, redundant. The question, thus, is not only *what* is Sophia but *why* Sophia—and, for this study in particular, why does this language help bring strength to our discussion of Alexander and the world-soul vision his work invokes?

Answering this latter question will help us frame the former two. In seeking an anthropocentric metaphysics that would best embody Alexander’s theory, one of the problems we encountered in the Neoplatonic vision was an understanding of the world soul that did not go far enough in distinguishing the kinds of souls which inhabit it. While we concluded that there was something alive and animate in all natures, a contemplative or self-contemplative desire for formal causes (manifesting as either recollection or projection, respectively), we also concluded that there was nothing intrinsic linking life

²⁷⁵ Bulgakov (2014), 144–45.

horizontally—not, at least, on a teleological level. No complementary activity of contemplation was *necessary* to increase a nature’s actuality (though the formal beauty of a stone, say, could help inspire a human soul toward the One, offering a contingent and thus extrinsic relation).

This strictly vertical relationality we linked with a “loving” overflow from above that does not “worry” about its emanations below, leaving us with a largely equivocal understanding of divine love. However—and here is the concern we need to address—if we restore love to the divine analogically, with the implication that love “trickles down” into every corner of creation in providential care and attention, then we no longer have a world soul in which its iteration into each nature—from stones to bears to human beings—is one of degree. The human being is sufficiently different in kind as to warrant a different determination, albeit not different in a way that presumes an equivocal relationship from the things in which it differs, but an analogical relation, supposing a different order and activity. To put this another way, it is not as though Plotinus does not also acknowledge a difference when it comes to humanity; however, humanity’s operation is only different in degree from the operation of other natures (i.e., a difference in contemplative intensities). The difference between a non-self-reflective tree or cow and the self-reflective human being here collapses. But if we can suppose a love in the divine by analogy with the love we know as creatures, then we uncover a deeper horizontal relationship with creation which, in placing the human being as a central unifying force in that love (as the one who can *actively* beautify and humanize and attend to the world), this places the human both *in* the world (soul) as well as *beyond* it. Of course, Plotinus suggests something like this—for

example, a part of us always subsists in the forms—but what Bulgakov argues is not that we straddle two hypostases (soul and *nous*) but rather that the human being *is itself hypostatic*, and in being so, is a co-creative actor with the divine in creation.²⁷⁶

For Bulgakov, the world soul is not hypostatic, or not *in actu*. It has a potency to be actualized into hypostatic life, but this is why it remains on the level of “hypostatizability.”²⁷⁷ This is the dimension added to our understanding of the world soul: the world soul is not a hypostasis in creation but the potency of the divine essence, or personality, coming into greater actuality; the creaturely Sophia (the world soul) reveals the Divine Sophia—her entelechy—through human activity in the Spirit (i.e., the contemplative, grace-imbued act which presumes the Spirit).²⁷⁸ Thus the human person, the “fourth hypostasis,” a *created* and not divine hypostasis, *hypostatizes* matter in such a way that “nature is always being quickened, humanized by man, becoming the periphery of his body.”²⁷⁹

²⁷⁶ In *Timaeus*, Plato anticipates this particular problem of difference between the human being and the rest of the world, doubting that the soul of the former is merely derivative of the latter (i.e., the world soul). See *Timaeus* (41d4–7) where human souls are made “from the ingredients left over from the creation of the world soul.” Wilberding, (2001), 17. In *Bride of the Lamb*, Bulgakov attends to this lacuna where he proposes two separate yet intrinsic acts of creation, one which naturally unfolds into the other: “The humanness of the world is revelation’s fundamental and generalizing truth about creation. Man was created on the ‘last day,’ ‘after’ the rest of creation, which was therefore assumed to exist already and to include him in order that he possess the ‘earth’ and ‘have dominion’ over creation. And he received from God ‘the image of God,’ that is, a hypostatic spirit, which possesses its own nature and fullness of life in this image. Or, as man is usually called in the language of the patristics, he is a ‘creaturely god.’” Bulgakov (2001), see esp. ch. 4, “The World Soul and Its Hypostases.”

²⁷⁷ Bulgakov (2001), 80.

²⁷⁸ Ibid.

²⁷⁹ Ibid., 81.

Importantly, a trinitarian understanding cannot be subtracted from sophiological thinking. The Divine Sophia—again, creaturely Sophia’s entelechy—is not some *other* thing apart from the Trinity but the divine essence itself; it is not a *person* amongst them, but it is nevertheless *personal* for being their shared personality. Each trinitarian person illuminates Sophia in its own way, but it is always a shared sophianic life the one-in-three express. Whereas Neoplatonism sees hypostatic levels proceeding one to the next—One, *nous*, soul, and (at least for Proclus) nature—the world soul is, for Bulgakov, the kenotic (that is, self-giving outpouring) of trinitarian life; the world soul is the result and is the icon of this perichoretic essence. If all things are unified and connected as revealed to us in nature, it is due to a prototype in this eternal, perichoretic relation of the Trinity, a nature or common personality—or indeed wisdom—which we call Divine Sophia. In this view of creation as an icon of kenotic love—in which beauty or wholeness reveals itself to us in so far as, as Schelling states, “all the parts love one another”—the world can be understood as personal; indeed, each thing we encounter can be described in a shade or tonality within this personality, and the language of wisdom becomes one that helps our range of aesthetic encounters in a way that “beauty” potentially leaves out (with all its cultural associations of grandeur). Everything shines with a wisdom revealed out of this personal life.

Thus, to the question *why* Sophia we have our answer: it both distinguishes the human person and her co-creative agency in nature and distinguishes, too, the personal character, or wisdom, created natures express—as their inner-entelechy—in our contemplative encounters with them.

But *what* Sophia is can be taken a level further, for what we have just said is not just a theoretical description of a cosmic story—"three persons with a sophianic manifestation"—but one that bears a certain phenomenological experience, which is to say an *aesthetic* experience of its life (one which Schelling, in the former quote, already suggests). As Antoine Arjakovsky notes, wisdom (*sapientia*) in the West has increasingly been associated with "the capacity for organizing the intelligence"—that is, with a strictly analytical capacity whose strongest ontological association goes only so far as its virtue (i.e., prudence *organizing* our ontological orientation toward the good). The Christian East, on the other hand, did seek to personalize wisdom (*Sophia*)—anchoring it as a positive force in being, not yet lost to abstraction—but incorrectly designated Christ in that role. "The Biblical revelation of Wisdom as divine-human consciousness in action, the deepest life of divine being, was [thus] gradually lost."²⁸⁰ To come to grips with wisdom as both an ontological *being* as well as an operation of human intelligence—that is, to return to the biblical vision of Sophia as "set up, at first, before the beginning of creation" "delighting and rejoicing in [God] always" (Prov. 8:22–31)—we must see something in the *way we know*, in analogy, as not just an address of the fallen order to a higher ontological order but as the way in which knowledge or intelligence actually is an ontological unfolding in creation. To put it another way, analogy is not an epistemological contingency our imperfection has left us with but speaks rather of the way in which knowledge *is* love, or "delight," or play—again, a participation, or icon, of perichoretic life (Sophia). To know something is not to know it exhaustively but is a movement of *epectasis*, of an eternal

²⁸⁰ Arjakovsky (2022), 101.

opening or increase in our desire; every created object, in so far as it has this foundation in love, bears this intensity. This is nothing less than the *life* or *livingness* that we encounter in Alexander's descriptions—a life that has no limit but which increases as we *attend* to it, connecting one living center to another in a sort of ever increasing, mandala-like movement into actuality; it is a play in which our contact to the divine moves us into the misty spaces of limitation—a movement which always seems like a trespass across analogy itself but, insofar as love or unity is experienced, must presuppose analogy for the experience of love acknowledges a dynamic complementarity that assumes a difference or identity that is never under the threat of collapse.

We may therefore conclude that a Bulgakovian sophiology offers Alexander the heft that provides his work a response to the philosophical and theological contentions which his work has (in Caldecott) or might in future face. While it is by no means his mandate to work within Platonic or Christian (or Hindu or Taoist, etc.) orthodoxies, what emerges through the due attention Alexander gives to both matter and spirit—a “religious empiricism”²⁸¹—is a coherent anthropology that invokes the radical personalism of Bulgakov's Christian Platonism, perhaps the most creative and, as I've sought to argue, coherent vision of the world soul.

Having established Alexander's cosmic vision and modified physics as reversing, or inverting, the mechanical conception of matter, and having established this world soul vision as one to which a robust metaphysical framework in sophiology can be applied, let

²⁸¹ Invoking the “re-binding” of difference to a transcendent unity, implied in the word's etymology: *religare*.

us now move on and build up these scaffoldings to investigate further implications in this reversal. A shift from mechanism to soul (or Sophia) not only shifts the way in which we consider the “composition” of the physical world and our relation to it but radically alters, too, the way in which we understand our practical methodologies of art and technique; this alteration in understanding, importantly, does not separate us from the theoretical terms we’ve drawn out but moves us a further step into the contemplative and relational “space” Alexander’s theory compels us to enter.

SECTION 2: THE ALEXANDRIAN COSMOS: METHOD, PROPERTY, AND FORM

When a thing is made, it has the will of the maker in it. But when it is generated, it is generated, freely, by the operation of egoless rules, acting on the reality of the situation, and giving birth, of their own accord.... The brush stroke becomes beautiful, when it is visible only as the end product of a process—when the force of the process takes over the cramped will of the maker. The maker lets go of his will, and lets the process take over.... And just so, anything which lives can only be achieved as the end product of a process, whose force takes over and replaces the willful act of creation.

—Christopher Alexander, *The Timeless Way of Building*

5. ALEXANDER'S METHODOLOGY

5.1 Introduction

Alexander's modified physics demands a new way of looking at the world that is, of course, a renewed articulation of an older view. If we apply a Bulgakovian reading of Sophia to Alexander's cosmic vision, we find a unique opportunity to describe a personalism that reaches beyond that of typical personalistic thought. Sophiology, in our Bulgakovian reading, is not other than personal but the very essence of personality. This is what makes Bulgakov the personalist thinker *par excellence*. His argument for the dignity of the human person goes beyond the isolated human individual that much personalism falls prey to in spite of its relational emphasis (leaning, as it does, toward existential and

phenomenological forms of expressions, given its time and place in Europe).²⁸² But in Bulgakov's creative metaphysical daring, personhood is not only instantiated in the dignity of the human person (as the cause and reason for this dignity) but is the quality, the *stuff*, that links and most fundamentally describes nonhuman creatures, with personality (or Sophia) being their inner entelechy and destiny, fulfilled in the summation of divine humanity. Thus the divine “traces” or “vestiges” we encounter in nonhuman life are the potencies of personality that are encountered because they are eternal actualities—the fulfilled reality of every nature—always already there to be anamnatically perceived and awoken.²⁸³

This too offers a third aspect of cosmic personality: Between the person and the personalizable world, there is a particular kind of relationship that binds their destiny—that is, a particular way in which the former relates itself to the latter. We have seen the problems with the mechanistic approach to nature. This posture depersonalizes the world in, amongst other abuses, approaching it first impersonally, as an *it* rather than a *thou*. Not

²⁸² There was a philosophical turn toward the person seen throughout the mid-20th century, from Maritain to Gadamer to the Madrid School. Personalism in Europe (putting aside the Boston Personalists in the US) became its foremost proponent, chiefly in Mounier. For Mounier, however, nature must ultimately be “overcome,” in that it seeks domination rather than cooperation. Mounier (1989), 11–16. Interestingly, a personalist synthesis might have been found in the Madrid School, particularly in Julian Marias who added to Ortega y Gasset’s *cogito* “I am I and my circumstance” the dramatic clause “and if I do not save it I do not save myself.” “There is in all things,” writes Marias, “the indication of a possible plenitude. An open and noble soul will feel an ambition to perfect it, to help it achieve that plenitude. This is love—the love of the perfection of the beloved.” While something of an agnosticism toward the *Ding an sich* still hangs over much of Ortega’s work, Marias deigns to locate the other horizon of reality (“the things”) within the dynamic of love. Indeed, Marias defines philosophy as the “general science of love,” locating its tenure as standing, ultimately, within theology’s interests: a world whose coherence is love and relationality, and thus a reality in which all things may be understood as either latently or actually personal, extending beyond Mounier toward Bulgakov (and Alexander). See Raley (2019); see also Marias (2007).

²⁸³ See ST I.93.2. “Of earthly creatures, man has a true likeness to God; other creatures have a trace or vestige of God rather than an image.”

only does this approach depersonalize nature, but it depersonalizes us, as objects over against other objects (in the Cartesian presupposition of mind over against extension).²⁸⁴ There is, however, a complementary relationship, a horizontal relationship between the person and nature grounded vertically insofar as it is *kenotic*, a giving over of oneself that reflects and partakes in the trinitarian economy—that is, the divine essence we call Sophia (and all being, as sophianic, is expressive of this kenotic center). If our philosophical endeavour in section one has convinced us of the explanatory poverty of a mechanical ontology, our understanding of the real must therefore point to something more closely approximating a sophianic vision of the world. If an objectified world of materiality—deadness/death—is not *what the world is*, then it is first *life*. Granted this, it would be irrational to continue our scientific approach as one rooted in the mechanical philosophy. A sophianic world demands new empirical approaches, approaches that see as much into the deeper nature of the person as they do into nature and that see the two as aligned or attuned: “Science should be transformative of the scientist.”²⁸⁵ “The human being,” writes Goethe, “knows himself only insofar as he knows the world; he perceives the world only in himself, and himself only in the world. Every new object, clearly seen, opens up a new organ of perception in us.”²⁸⁶ The dignity of worldly life is thus one that presumes an attunement between human persons and nature. This was 20th century personalism’s

²⁸⁴ In classical and medieval cosmology, not even things (*res*) were to be objectified. “It bears recalling... [that] the word *objectum*... ‘did not denote a thing... [for] things were subjects of their own actualization in being, in attributes, in processes, and in the realization of their potentialities.’” Buckley (2022), 411. For a discussion of *res* as a “fully-fledged transcendental,” see Pickstock (2013), 10ff.

²⁸⁵ Robbins (2005), 124.

²⁸⁶ Goethe, J. W. (1988), 39.

missing, unexplored element; without it there is no coherent anthropology (or, indeed, ecology).

In this section, I will look at Alexander's study of what he calls System A and System B; the latter invokes mechanical methods which prioritize efficiency and profit, the former, the personalist attunement that generative building supposes—with a priority on the mutual and reciprocal flourishing of the human being and the world given to his care. This argument will take us into an analysis of capitalism as an outcrop of mechanical thinking, as well as to Goethe's "delicate empiricism," Keats' "negative capability," and Cusa's "absolute potentiality" as themes of attunement (or themes which help us refine attunement); these stand at the heart of the Alexandrian approach in its prioritization of the "measure of the self." We will end the section with a consideration of life (or life's absence, death) in the mechanical worldview, and the soteriology of "managerial" man.

5.2 System A: *An Attunement to Hidden Latitudes*

In his final book *The Battle for the Life and Beauty of the Earth*, a work that chronicles his eight years constructing the campus of Eishin School outside of Tokyo (1981–89), Alexander writes,

In *any* environment we build—building, room, garden, neighborhood—always, what matters most of all is that each part of this environment intensifies life. We mean that it intensifies human life, animal life, emotional life, the life of storms, the life of wild grasses and lilies, the life of fish in a stream, the life of human kindness in a

rough place where it may not be easy to find.... We may say that this is the project of *all* architecture. It needs to be the source, fountain, and origin of everything we think about, and do, as we shape our world. Indeed, it has by now become well-known that the underpinning for successful work in architecture will almost inevitably depend on some kind of generative system, or system of rules, or patterns, which give the key elements of the architecture their shape and organization. This idea has a long history, with roots in traditional and vernacular architecture, with roots in classical architecture of various kinds, and most recently with roots in our modern era in the sophisticated theories of pattern-formation that have been developed over the last fifty years.²⁸⁷

Whether the proportions in our structures reflect the cosmic sphere (Plato's "star dance"), as in Vitruvius,²⁸⁸ or the inner sphere of the heart, the motifs will come to life—whether in a palace or in a teepee—based on certain conventions or patterns that grow out of a particular context in relation to the universal (or they will, at least, if a culture's goal is one which seeks the wisdom in nature, revealed and realized through contemplated beauty). Such a particular context will include patterns that consist in, or emerge out of, the land, the climate, cultural tradition, ritual, political governance, public and private custom, family dynamic and organization, etc. For each pattern to strike a balance of the universal and particular that ensures a nonidentical repetition to its neighbour (whether it's the

²⁸⁷ Alexander (2012), 115–16.

²⁸⁸ Following Spitzer, Perez-Gomez notes this "star dance," or the imitation of cosmic harmony in the life of human beings (see book 10 of Plato's *Republic*), as a consistent theme throughout Vitruvius' work. Perez-Gomez (2016), 45.

neighbouring yurt, townhouse, or tile) a mixture of the particular and universal qualities (that amount to the single quality *life*) must be contemplatively sought.

In order to generate a new pattern language for the Eishin campus that manifested this life, Alexander interviewed each student and teacher to get a sense of their vision for the new school. Similar to his earlier question (in our overview section) which asked, “Which object most reflects your inner-most self?” Alexander asked each staff and student to try to envision the perfect school *for themselves*. What did they imagine? “Often I would try to help them by saying something like, ‘Please close your eyes. Just keep your eyes closed and dream... imagine a place... the most wonderful school you can imagine, a kind of fairytale school where everyone is happy. The students are happy, you are happy teaching, the teaching is going very well, and it is a pleasure to work there.’”²⁸⁹ He then describes their responses:

Reluctantly, hesitatingly, often with some embarrassment, they would begin to describe their feelings about things—shyly, as if it was not allowed, or as if it was crazy for them to attempt it. They began to describe true dreamlike atmospheres. For example, one teacher said something like this to me: “I imagine walking by a stream, small streams and islands, perhaps bridges, and trees hanging in water—a place where I can walk quietly and think about my class, or collect my thoughts as I prepare to teach.”²⁹⁰

²⁸⁹ Ibid., 119.

²⁹⁰ Ibid., 119.

While at first this may appear whimsical, the method is deeply sophianic (and why not suppose that whimsy has its very life in Sophia?).²⁹¹ “This procedure deals, above all, with feelings and intuition, and shows us a grand vista of process that is carried by the emotions and connects us, mentally and intellectually, with phenomena that are like dreams. The dreams go to work for us on the holistic level, and speak to us as artists—thus opening a vista which is exciting and inspiring. We finally experience what it means to connect with the wholeness of the world *directly*.”²⁹² Our dreams are not ethereal nonsense but the very datum that connects us to the enfolded whole latent in a structure. The method presumes a metaphysical ground to which we are already oriented, one we can, if guided, describe. The imagination shows us hidden latitudes that cannot be disclosed otherwise, generated out of eternity (and not Ulro), because the human being in his sophianic role (with divine humanity latent in himself) straddles the divine and created worlds. “Man belongs simultaneously to both worlds,” Bulgakov states, “to Sophia and to empirical reality. He is simultaneously the potential center of the cosmos and a product of the real world.... For him, nature is potentially transparent and throws off her shroud; yet at the same time he himself is draped in this shroud, is hobbled by a deep and cosmic sleep.”²⁹³ This sophianic procedure supposes a mystical attunement within the creative act, reflected in the even

²⁹¹ In a societal preference for left-hemispheric engagement of the brain, we will often find such contemplative right-hemispheric techniques whimsical, extraneous, even “annoying,” so colonized have we become by a *vita activa* which disposes us to stand over a world considered as object. Ettlinger (2023), 185. For McGilchrist’s hemispheric theory of the brain, see McGilchrist (2009).

²⁹² Ibid., 438.

²⁹³ Bulgakov (2014), 146–47.

more prescient question posed to Alexander’s interviewees: “What is the most holy place in the school?”

5.3 A Delicate Empiricism: *The Contemplative and Reciprocal Unfolding of Subject and Object*

This process draws an easy comparison to Goethe’s “sacred inquiry” or “delicate empiricism” in which four aspects are central, here summed up by Brent Dean Robbins: “1) giving primacy to experience as sacred, 2) using representations of that experience in such a way that brings beauty, 3) developing understandings of that experience that are not alienated, and 4) initiating action and forms of engagement that heal ourselves and our planet.”²⁹⁴ To attempt this sacred inquiry—which Goethe contrasts against “the gloom of the empirico-mechanico-dogmatic torture chamber” of Newtonian science²⁹⁵—two further aspects are stressed: first, an empiricism that “gives primacy to perception,” and second, an empiricism that is “delicate” “to the extent that it gives itself over to an ethically responsive obligation to the observed.”²⁹⁶ This method is much like phenomenology, and in some sense its precursor, in that it weeds out the scientific mechanist’s first presupposition that there can be a science in which nature and intentionality are separated.²⁹⁷ “And so in a certain manner of speaking,” Robbins states, “the beauties of

²⁹⁴ Robbins (2005), 118.

²⁹⁵ Goethe, quoted in Robbins (2005), 118.

²⁹⁶ Robbins (2005), 118.

²⁹⁷ Unlike phenomenologists, however, Goethe does not bracket out (*epoche*) the divine as something the “Ur-phenomenon” or “stuff” uniting each nature may reveal. Indeed, the phenomenological might be described as only a “moment” in the deeper “noetics” of the delicate empiricist, much as is supposed in the ancient notion of *theoria*. “*Theoria* was *contemplation*,” writes Bruce Foltz, “but not the observation... that fixes in place, striving to ‘entrap’ and ‘compartmentalize’ its [object].” It is, rather, “a mystical ‘seeing’ of the invisible within the visible” or the “rootedness of the visible *in* the invisible.” Etymologically, *theoria* relates to

nature which appear through perception—the colors of the rainbow, the pungent scent of the forest after a Spring rain, awe before natural disasters, and the endless expanse of darkness receding infinitely into the depths of the night sky—are not merely ‘subjective’ phenomena; they are nature because we are nature, and they exist only in relation between the vacancy of consciousness and the plenitude of being.”²⁹⁸

Hopes and dreams are not unscientific, in other words, if we suppose that the structures of form are not ontologically separate from our capacity to contemplate them. For Goethe, like Alexander, nature is always in a process of becoming; it is the *natura naturans* in which we ourselves creatively partake in our own becoming. In this light, as Robbins states, it will never be mathematics or concepts themselves that turn out beautiful form or an understanding of nature’s inner operation (analogous with our own), but the structures of form beheld in empirical observation in which the forms of nature and human imagination come alive to a common root.²⁹⁹ For Goethe, it is not *sense* which deceives us but *judgment*;³⁰⁰ if we can become innocent in our first sense, and hold to it, this will deliver up a science superior to mechanism in being free of the specious theories of separation which alienate us from things, as well as commending to us a scientific

the seeing “that was once associated with the theatre,” but ancient theatre presupposed more than simple “objectification.” It was, rather, “an event of participation.” Foltz notes that this participatory sense of *theoria* “continues into Plato’s usage, where it is sustained by an ‘erotic astonishment,’” a participation “in the beauty of what is beheld.” Foltz (2014), 3–4.

²⁹⁸ Ibid., 119.

²⁹⁹ In Pavel Florensky’s *The Pillar and Ground of Truth*, Sophia is often referred to as the “root” of being.

³⁰⁰ Hensel (1998), 71–82.

(empirical) method that seeks this prior metaphysical unity. Goethe calls this a method of “exact sensorial imagination.” Robbins describes it thus:

The method of “exact sensorial imagination” when observing a phenomenon is a matter of retaining past forms of the phenomenon while anticipating the forms the phenomenon will likely take as it unfolds into the future. It is, in other words, a matter of grasping the temporal structure of the phenomena. Indeed, the method of “exact sensorial imagination” is actually a refinement of the natural process of perception, which is always already infused with memory and the imaginative projection of future possibilities.³⁰¹

Memory is not, in other words, something packed away in our trunk, there for us to draw from when needed but an always active faculty of perception. More than that, however, it is ontological, revealing the present as a part of its ongoing, unfolding structure, “the invisible progress,” says Bergson, “of the past gnawing into the future.”³⁰² To know where an unfolding next goes requires we know from where it previously came. Memory has less connection, in this light, to flux (that is, an enduring impression of an annihilated moment in time) than to a sort of eternally communicated rhythm or flowing.³⁰³ Another way to say this: a memory *unfolds* into the present and future alongside the object of its contemplation.³⁰⁴ A hope or dream is not just *our* hope or dream but a longing in the object

³⁰¹ Robbins (2005), 120.

³⁰² Bergson (2010), 194.

³⁰³ “Flow” over against “flux” is further elaborated in ch. 8.

³⁰⁴ Thomas Pfau writes, “As patient, undeviating sight issues in objective insight, the observer’s intelligence undergoes the same differential growth as the organism with which it is concerned.” Deeper levels of “self-recognition” develop in the observer who shares in “one and the same *logos*” as the observed. Goethe would

or landscape, the *nous* which *soul* contemplates or the divine Wisdom after which creaturely Sophia yearns—and thus after which, emphatically, humanity yearns, as her divine summation.³⁰⁵ The *Ur-phenomenon* (or person-stuff) reveals itself in this communication of being. “Perception turns out to be not a mechanical recording of the stimuli imposed by the physical world upon the receptor organs of man and animal, but the eminently active and creative grasping of structure.”³⁰⁶ While walking in a public gardens, Goethe discovered that the “true Proteus” of the plant was the *leaf*, stating, “From first to last, the plant is nothing but leaf, which is so inseparable from the future germ that one cannot think of one without the other.” Every memory hides the germ that will connect (or, like Proteus, *shepherd*) it to the future in both a passive intuition and a creative act—indeed, inhering in any creative activity is a contemplative *reception* of this germ.³⁰⁷

famously put this in his statement that his “botanical education resembled to a certain degree the course of botanical history itself.” Pfau (2022), 405.

³⁰⁵ It is important to read this teleological understanding as *intrinsic* to the form of beings. A common reading of teleology, for instance, as in Gregory Rupik’s research on Goethe, may suppose it to be an “extrinsically pre-ordained goal or fixed end-point,” a sense which comes from an impoverished understanding of the ultimate point or horizon of arrival. See Rupik (2021), 32. One purpose of this chapter will be to delineate teleology as intrinsic to form so that, with Goethe, we can say, “in nature, everything is an analogue of everything else.”

³⁰⁶ Arnheim (1986), x.

³⁰⁷ Gemma Anderson notes the isomorphic character of this common unfolding between subject and object in her study of drawing as a “discovery” (rather than “invention”) of natural forms. Anderson (2019), 20.

5.4 Freedom in the Process of Unfolding: *The Relationship of the Actual to the Possible in Human Creativity*

We will discuss this latter theme shortly—contemplation as an active reception—of a piece with John Keats’s “negative capability” (i.e., that disposition which, I argue, must precede a method of delicate empiricism), but for the moment, let us note one further characteristic in Goethe’s delicate empiricism—an innovation upon classical metaphysics, or perhaps a further unfolding of what was always latent there. Where the Aristotelian system asserts an actuality in form prior to potency, Goethe, Robbins argues, shifts the order. For Goethe potency comes *first*:

Goethe’s notion of the *Ur-phenomenon* challenges one of the earliest and most fundamental claims of Western metaphysics, namely, Aristotle’s claim that actuality is metaphysically prior to possibility. Aristotle’s metaphysics, when retained within and incorporated into the context of Newton’s science, projects nature as a standing presence, composed of discrete, isolated and determinate objects. However, as in the existential-phenomenological philosophy of Heidegger, Goethe’s *Ur-phenomenon* implies that the phenomenon is an event or happening, a process of becoming, in which actuality and possibility are fused and gathered by the thing as it is revealed to the perceiver within the context of the life-world.³⁰⁸

³⁰⁸ Robbins (2005), 121.

The archetype is only revealed through the dynamism of the observed object. One would like to argue Robbins's point and claim a complementary relation of these themes in Goethe's poetry, alike, say, to Coleridge's understanding of potency as that which acts *in* us, while actuality works *upon* us. However, for every salutary paradox in, for instance, his *Rhapsody on Nature* ("What now is never was before. What was comes not again. All is new, and yet old." Or, "She sets out every moment for the longest race, and is every moment at the goal.")³⁰⁹ there are stronger intimations of a pure immanence ("Her play is never new, because she ever creates new spectators. Life is her finest invention and death is her artifice to get more life.")³¹⁰ There seems an ultimate reduction to potency, chance, flux, so that (truly like Heidegger) all *eros* is circumscribed by an ultimate horizon of (or being-towards) death.³¹¹ With the same pathologies of reductive thinking that undergird mechanistic perceptions, Goethe's *Rhapsody* appears to lull us away from life, however much it wishes (with its stress on all life's sensual beauty and risk) to return us to it. The primacy of potency is the primacy of death.

On the other hand, Goethe's interpretation of spiritual unfolding can seem bound, as well, to an ultimate determinism. Placing his *Rhapsody* aside, we might, as another example, look at his poem *Unworte Orphisch* in which dynamism cannot quite flourish other than by a hope (*elpis*) that is no more than the expression of an agony over against the constraints (*ananke*) in our "stars." Our personal *daimon* (or archetype) becomes that

³⁰⁹ Goethe (1869).

³¹⁰ Ibid.

³¹¹ Naether (1918).

impersonal force against which we rage, that “bronze wall” through which “the most hateful gate bursts open.”³¹²

Our business, of course, is not to defend or oppose Goethe’s thought but rather to defend an interpretation of his “delicate empiricism” that obtains within the sophiological metaphysics we have established in the work of Alexander. We must therefore articulate a metaphysics of unfolding that can speak to the integrity of form— the integrity of a relationship between potency and actuality that does not, on the one hand, lead to an overemphasis on the former (and thus lead to death) nor, on the other, to a determinism that places a total supremacy on actuality (also leading to death). How do we understand, in other words, the creative act of building or making as a mutual unfolding in which the enfolded potential structure remains in continuity with itself while also evincing a creative novelty that indicates a true (nonmechanical or non-determined) relation predicated on freedom, care, and love?

To address this theme, let us first address a common presupposition—namely, that actuality represents the divine ground in this pair. God is not, in other words, one thing over against another, just as a cone is not merely its straight lines nor its curved lines but the form, the *logos*, expressed out of the correct mixture of both. Likewise, God is not actuality nor possibility; he is *absolute* actuality as well as *absolute* possibility. In his *actus purus*, he is all possible potencies. “He is all things,” states Nicholas of Cusa, “in the sense of enfolding all things. For everything that in any way either exists or can exist is enfolded in

³¹² For the poems cited here, see Hadot (2023), 86–88.

this Beginning. And whatever either has been created or will be created is unfolded from Him, in whom it is enfolded.”³¹³ To not have unfolded does not mean it was not enfolded; if it was enfolded but never unfolded, it exists, albeit it is unrecognized in the order of becoming.³¹⁴ God dwells in potential as much as he does in actuality; in being neither one nor the other, he is both. “All the possibilities of creaturely being,” writes Bulgakov, “having their roots in the Creator’s knowledge [knowledge which is, in God, *esse*], are open to this knowledge, since they belong to the world created by Him and are included in this world’s composition, not only in the form of ‘integral wisdom’ but also in the form of a distributed multiplicity.”³¹⁵

But our conclusion that God is not the one nor the other but both does not yet respond to our concern over creaturely freedom—indeed, it seems to further imperil it. Not only is the wall set in bronze, but so too, it seems, are our own winged feet: God is not only actuality but the eternal advent of every possibility. In this case, the dichotomy of act and potency is not only a false dichotomy (as opposites that cannot but coincide) but one whose resolution gets us no step closer to a coherent understanding of creaturely freedom. If absolute actuality is also absolute possibility, then our resolution will not come in a response that assumes a dichotomy in these terms but in a response that assumes a

³¹³ Nicholas of Cusa, quoted in Stoffers (2021), 1102.

³¹⁴ “Hence, if I were to understand that every possibility is actual, [I would understand that] nothing more would be left over. For if anything were left over, surely this thing would be possible to exist. And so, it would not be left over but would simply have been unrecognized at first.” Nicholas of Cusa, *De posset* (h XI/2, 20), n16, quoted in Stoffers (2021), 1103.

³¹⁵ Bulgakov (2021), 238.

participatory relationship, or communication of idioms, in which all parts and members are preserved in freedom. Bulgakov calls this relationship a “synergism.”

Creation... cannot bring anything new into the world; it cannot surprise or enrich the Creator Himself. But the very choice and creative actualization of these possibilities, that is, the domain of modal freedom, remain entrusted to creation and *to this extent* are its creative contribution. Although creation cannot be absolutely unexpected and new for God in the ontological sense, nevertheless in empirical (“contingent”) being, it represents a new manifestation for God Himself, who is waiting to see whether man will open or not open the doors of his heart. God Himself will know this only when it happens.³¹⁶

There is a mutual “self-determination” in which “an element of novelty [is] actualized in different modes for the two sides in the interaction.”³¹⁷ Nothing is predetermined in this case: in this synergistic relation God “veils his face,” or kenotically decreases so that man might increase. While God is utter omniscience, his knowledge being everything that exists (potentially or actually), he surrenders this knowledge in part to an ignorance of the acts of human freedom so that these actions have their own reality (and do not fall into “a function of a certain divine mechanism of things”).³¹⁸ But this does not mean that eternity depends upon time for its completion, in the sense that God is not yet complete or lacks perfection. There is no single causal connection, claims Bulgakov, quoting Aquinas here: “The ways of

³¹⁶ Bulgakov (2021), 238.

³¹⁷ Ibid.

³¹⁸ Ibid., 239.

the world are *non determinatum ad unum* [not determined to one thing].”³¹⁹ Rather, “the determination of creaturely freedom must be understood according to a series of infinite variations, actually as *non determinatum ad unum*, but with these variations remaining subordinate to one plan, to one ontological possibility, multiply actualized.”³²⁰ Over against Schelling, Bulgakov articulates a God who remains *personal* while not jeopardizing God’s immutability; both God and man remain personal and free within their own idioms, and even God is subject to the *surprise* of his creation—to being as surprise (Schelling)—as expressed in the freedom of his creation, through which he duplicates himself (i.e., Divine Sophia realized in created Sophia) in creation’s unfolding *theosis*. But this is not a surprise *other* to his own being, for the miracle of being, or freedom, is God’s alone, one which he willingly (i.e., kenotically) shares.

What this all suggests for our deceptively simple question—*is there a free creative act for the human maker?*—is a deceptively simple yes: While God dwells in what unfolds, and orients it toward a theme, he does not predetermine it mechanically toward a fixed single point. Our freedom is found in a harmony or an attunement, one idiom in confluence with another. Our making takes up a prophetic category in which our creative act becomes a participation in providence. In the delicate empiricism of whole-preserving transformation, the hopes and dreams of teachers and students for a recreated school

³¹⁹ Bulgakov (2021), 238.

³²⁰ Ibid. “There is no path,” says Franz Kafka, “but there is a goal.”

campus is not a caprice but a providential unfolding in which the “natural grace” of the all soul awakens us so that we might awaken and further intensify (humanize) it.³²¹

But let us extend this understanding just slightly, given some of our findings through this chapter—namely, with Nicholas of Cusa—and enhance, too, what we mean by Alexander’s “centers.” A bad structure, or a structure that has not been preserved through a transformation, closes itself off from the enfolded.³²² Temporally speaking, only one thing can be unfolded at a time, but a structure-preserving transformation will leave itself open to all enfoldments or possible potencies at each step. At each step, the intensive infinite at the center (the likes of which, we can say, makes a center a center) remains charged, creatively related to other centers in its environment.

Thus even unactualized potencies can be seen on some level; while not drawn into the realm of phenomenal being, there nonetheless, each with its share in the infinite depth of a center’s entelechy. In this light, one action or unfolding does not necessarily cancel another out, as though creativity were a zero-sum game played within and against all possible worlds;³²³ a true unfolding in which structure is preserved does not cancel other

³²¹ Bulgakov (2021), 247. By “grace” Bulgakov means that “power of deification, in which creation surpasses itself in man,” and by “natural grace” he means this power that “ceaselessly flows in the world... directed toward its sophianization. This grace is communicated directly to creation through the world soul, prehuman or not yet humanized being, and then through man.”

³²² Bad structure or art closes itself off, analogous to perceiving nature as *natura naturata*, the production of a mere object. On the other hand, good art or structure, as Charles Carman writes (in his study on Cusa and Alberti), “is not so much the product, as the way in which the object produced springs from and stimulates understanding of an originating force or process through which things come to being.” See Carman (2014), 5.

³²³ Of course, a secondary cause (e.g., the potter) may restrict the clay which is made into a bust of Elvis from thus becoming a salad bowl. But this has no bearing on the quality of infinity (the First Cause, analogically participated) that continues to abide in it. Indeed, this quality of infinite potential depends upon form; the clearer and more distinct a form is a *this* and not a *that*, the clearer and more distinct its infinitude. A “finished” bust of Elvis, if perfect, still moves, still expresses the eurythmy of life, of the *natura naturans* (see

possible potencies but, on some true level, *preserves* them too. In other words, they are not only metaphysically possible but ontologically valent. If God is the creator of all actualities, as well as all possible potencies, the human maker's job is to bring glory to both, God's wisdom at the surface and God's wisdom in the deep, as the musician preserves the rest between each note. This coincidence in every center is its freedom.

We might return to Goethe here, whose theology we may have too hastily left behind; in his later poetry, Goethe holds these two analogical layers or orders together, as well as their mutual interaction:

*O, World-soul, come to fill our lives,
For he who with thy spirit strives
Attains the height of his vocation.
Then, sympathetic spirits, speed us;
Great masters, gently higher lead us
To the Creator of creation.*

*In re-creating the created,
Lest fossilise the animated,
Aye, active power, is manifest;
The non-existent actualising,
In younger worlds and suns is rising,*

above note). A poorly decipherable bust of Elvis moves little or not at all. In our final section we will discuss the idea of movement applied to eternal forms.

But never, nowhere, can be rest.

In active deeds life proves unfolding;

It must be moulded and keep moulding;

Sometimes but seeming rest 'twill gain.

The eternal stirreth in us all,

And into naught we all must fall;

*If e'er in life we shall remain.*³²⁴

5.5 Negative Capability: *True Creativity Supposes a First Humility or Receptivity (That Does Not, However, Preclude Reason)*

We have described the method of structure- or whole-preserving transformation, a method that is fairly basic if our presuppositions do not reify a mechanical worldview. That the world has communicative life that comes to be in our aesthetic awareness is not a far-out claim for anyone who gardens, paints, or, say, organizes a den so that it feels “warm” or “calming.” An older mechanical view would see these tasks as secondary, a subjective delight that ultimately amounts to nothing at all, having no ontological import to objective (mechanical) orders. What Alexander claims is that it is precisely the opposite: our adornment of the world in beauty actually has the ability to tell us what the objective order in fact is, one that sooner comes to light in the simple contemplation of a tree or an ant or

³²⁴ Goethe, “One and All,” quoted in Carus (1915), 695.

an icon than through our subterranean efforts to recreate the Big Bang in large hadron colliders. For the philosophical mechanist, the world is fraught with extended bodies whose study entails a pure activity (i.e., free of passivity/reception) devoted to reduction, dissection, capture. The sophiologist's method, on the other hand, is a delicate empiricism in which a much more hermeneutical disposition is adopted: our first concern is not in the repetition of results, as in the scientific method, but rather in the nonidentical repetition that permits life to be and grow (which is not, of course, a disavowal of the scientific method in its proper place). It is through attention to what Goethe calls the "germ" or "*Ur-phenomenon*," or what Alexander calls I-stuff or person-stuff, that wholes or centers transform in both continuity and discontinuity, bringing to realization potentialities which also subtly—like a cathedral's negative space amplifying a positive acoustics—elevate and intensify all other possible potencies. However, as we will discuss in this chapter, the key to this method is a prior disposition of *receptivity*, both prefatory to the method, and, in some sense, the very embodiment of the method: a humility in a disposition of the *vita contemplativa* ("gazing" rather than "gaping"),³²⁵ or what John Keats calls a "negative capability" in which we are "capable of being in uncertainties, mysteries, doubts, without any irritable reaching after fact and reason."³²⁶

Alexander, throughout his body of work, stresses the element of humility in the process of design, a theme which, as we noted in the previous section, importantly

³²⁵ Bradley Jersak simplifies Heidegger's distinction between *technology* and *techne* in ancient Greece as "gaping versus gazing." Jersak (2015), 141. Also see Heidegger, (1977).

³²⁶ John Keats (1899), 277.

distinguishes his anthropocentrism from a crass egocentrism. He sees it as no coincidence that religious cultures who emphasize this virtue are those responsible for the most manifest beauty in craft and design:

The details of the artistic or spiritual path proposed by different mystical teachings as a method for reaching the ground varied from one religion to another. Muslims emphasized prayer and communication with God; Christians emphasized love; St Francis emphasized the love of every creature; some Buddhists emphasized meditation; others, especially those of Zen sects, approach life with the greatest matter-of-factness possible, and emphasized the ordinariness of the process, declaring that it is only hard work and the absence of irrelevant thought which leads us in the right direction.... However, though they varied, all these teachings had certain essentials in common. They all emphasized the need to abandon concern with one's own ego. They all emphasized the importance of hard work and repeated simple, even menial tasks. Above all, they all emphasized the desire to reach God, or the ground of all things, directly, face to face. In all these cases, the task of making, the task of building itself, was to be understood as a spiritual exercise, a direct attempt to come face to face with the ground of the universe.³²⁷

To see wholeness, he states, requires "purity of mind," "because the thoughts, mental constructs, theories, ideas, and images one has all interfere with perception of wholeness,

³²⁷ TNO 4:35.

and make it difficult to see.”³²⁸ One of Alexander’s “fifteen properties”—properties which, as we will discuss in the following chapter, physically describe structural transformations—he names “not-separateness,” a property or transformation that, for the maker, amounts to a negative capability operative in the soul:

Deep down in my heart there are usually subtle instincts which make me want to stand out, to be identified—instincts, in short, which make me want to be separate. But to feel the quality in the ground, to be able to be sensitive to what is, I have to have my eye, my ear, my feeling, very finely tuned to listening to the possible conditions in which the feeling of real oneness could occur, what it would be like if it did occur, and so on. For this, I must lose my preoccupation with myself and keep it only with the thing. I must be open to this very vulnerable and subtle substance.... I must genuinely seek, and want, and open my arms to being *not* separate. Most of the time I fail. I fail because, to do it, I must honestly give up every last trace of wanting to be distinct, famous, separate, identifiable.³²⁹

In order to achieve a vision of order in this way, Alexander says, one must become “childlike,” but “paradoxically... it is only the awareness of order which can allow us to release ourselves enough to even *get* this level of awareness.”³³⁰ We must let go before we realize we have. Grace comes out to meet us before we have granted her an invitation (or before we realize we have). But this is not foreign to experience. We dispose ourselves to

³²⁸ *TNO* 4:35.

³²⁹ *TNO* 4:308.

³³⁰ *TNO* 4:298.

beauty because she imposes herself upon us, or, better, persuades us irresistibly; whether or not we succumb to awe is never quite something we deliberate upon or choose. Beauty chooses us. Or perhaps the more dramatic realization is that she did not need an invitation, for we, we discover, *receive* being in her. Beauty is a reminder of the childhood we never leave (or the “eternal child” always within us).³³¹

Alexander meets the criteria Keats describes for the artist, poet, or maker; he stakes out a method which abjures the pure activity of mechanism for a reception that abides in a courting of the uncertain and unfamiliar, free of any “irritable reaching after fact and reason.”³³² There is indeed no *irritable* reaching out for reason in Alexander. Nevertheless, it *is* reason, *pace* Keats, that comes to light in this process. Here, however, he departs from Keats’s understanding in that something positively affirmed and thus known (in its mystery) comes to fruition when we perceive beauty, or participate in structure-preserving transformation. All apophatic discourse, as Aquinas knew, implies a subtle affirmation, or tacit knowledge of the unknown, beyond our negations. To “feel the quality of the ground,” as Alexander says, or “to be sensitive to what is”—by which he means to feel unity or “oneness”—already betrays the presupposition that it is within a supra-rational *logos* that all unfolding becomes revelation of *logos*.³³³ Reason, with her end in love, is that which we

³³¹ Commenting on Plato’s remark that the Greek people are *aei paides*, “eternal children” (Plato, *Timaeus*, 22b), Ratzinger states, “The Greeks want to be a people of philosophers and not technocrats, that is, eternal children, apt to wonder in amazement at the higher states of human existence.” J. Ratzinger cited in Schindler (2018), p.18.

³³² John Keats (1899), 277.

³³³ Aquinas states that we are obliged to “grasp” “the what” or *quid* of God “through negative differences.” SCG I.14, cited in Torrell (2003), 32. “There is no definition that would enable us to know him except for his distance from everything that is not him,” writes T. D. Humbrecht. “What he is, then, is not known but

come to participate in, an expression of this supra-rational *logos*—not, as in the mechanical understanding, a faculty we use to serve our various ends. Keats offers a way to overcome mechanism but implicitly ties reason to mechanism so that the only antidote to our pathologies becomes misology.

5.6 Inner Light and Intuition: *The Mystery or Inexhaustibility of Form Illuminates the Process*

A term Alexander deploys to describe the positive element emerging out of this apophatic posture is that of “inner light.” For Alexander, inner light primarily describes our experience in the colour field, “the color quality which arises as something comes to life, and as it approaches and reveals the I.”³³⁴

Like every other kind of life, inner light is created—always I think—by the unfolding process. The artist works at the whole which exists and then asks himself, at each step, what has to be done next, to intensify the light. The extraordinary thing is that while working, if we half close our eyes and look at the half-completed work in a passive and receptive state, we can *answer* that question. That is, the color which will produce light comes to my eye by itself, presents itself to me autonomously, arrives in me without my effort. The only effort I need to make is to make myself passive enough to *receive* the color which will then come into my eye.³³⁵

affirmed, which is to say posited by a judgment.” Humbrecht cited in Torrell (2003), 33. “Negative theology,” writes Torrell, “is by no means a theology of negation.”

³³⁴ *TNO* 4:160.

³³⁵ *TNO* 4:171–72.

When we place colours together in a composition, in other words, there is a *guiding* element, not one into the temporal future of a thing's unfolding but into a thing's supratemporal character, which is to say, its form (with the full whispering chorus of its possible potencies thriving in every moment of actualized becoming).

What dot of color—where, how much, how intense—will create that flash of deeper, more inner light in the thing before me? Usually, I can sense, intuitively, autonomously, what kind of color it is. We have the ability to see this color, partially formed, in our mind's eye. Then we have to try and *make* the color. And then, with actual paint I have to try and see if an amount of that color, in the place where I imagined it, really will *create* a more brilliant light in the thing.... This is an empirical matter. I place the color, then check to see if it does have this kind of effect. And I must remember, while I am doing it, that I am not looking for some superficial brightness. I am truly looking to see if the process I have just done, increases the *inner* light. That means, does it increase the extent to which this thing I have made now seems to go deeper into the realm of I, makes me more vulnerable, reaches further into the light behind all things.³³⁶

We may draw out of this the theme of intuition, particularly as it asserts itself in Jacques Maritain's work on art and poetry, where intuition is definable as the "divination of the spiritual in the things of sense."³³⁷ For Maritain, there is a connaturality between Self and

³³⁶ TNO 4:172.

³³⁷ Maritain (2018), 128.

Thing: the former understood as (in Brett Potter's scholarship on Maritain) "an expansive interior reality that mirrors the infinite cosmos in which it finds itself"³³⁸ and the latter (in Maritain's words), as "that infinite host of beings, aspects, events, physical and moral tangles of horror and beauty."³³⁹ In his explication of poetry, Maritain recapitulates many of our themes so far. Rather than art or poetry being an act of mimesis, it is

the process of divination by which the artist forges a certain intercommunication between "the inner being of the human Self" and "the inner being of things." The work of art is thus produced at the point of confluence of subjectivity and objectivity; it is a way of seeing that passes through the door of interiority of the Self in order to penetrate to the mysterious, even transcendent interiority of Things, while simultaneously awakening to its own selfhood in its aesthetic experience of the created order.³⁴⁰

As much as the road—the *empirical* road from which no artistic pursuit can prescind—toward intuiting the property of any given form invokes this inner light, we must remind ourselves that our empiricism is not a positivist science but that, again, what we *positively* behold within this process is *form*—not form understood as shape or size or colour as such but form understood as the "radiance of mystery,"³⁴¹ which is to say "the mystery of Being itself."³⁴² In this way, intuition toward this sensation of inner light is gained not by

³³⁸ Potter (2018), 85.

³³⁹ Maritain (2018), 70.

³⁴⁰ Potter (2018), 86.

³⁴¹ Maritain (2018), 123.

³⁴² Potter (2018), 88.

adherence to some external method we call “negative capability” but by an openness to the terrain of mystery and uncertainty; it is an active receptivity that is both the means and the goal, an exposure that returns us to innocence so that “the artist is able to reproduce what originally surprised us in natural objects, teasing out ‘their invisible substance’ and ‘their endless exchanges and correspondences’—penetrating beyond the surface to the mystery and wonder which shines through their contingent forms.”³⁴³

5.7 **Subdued Brilliance:** *Inner Light Pursues a (Vital) Beauty That Manifests in Relationship*

As both the means and the ends, negative capability not only reveals truth but places us in a state of truth, with eyes attuned to the surprise of being that is simultaneously (and paradoxically) a prescient *anamnesis*, enabling us to usher in or assist in being’s continual unfolding. What we mean by surprise, however, is not an explosive obliteration of limits; it is an involution that is, on some level, restrained or contained in the center, an involution we intensify (whether through art or contemplative attention). There is always, in other words, something *subdued* in brilliance. This subdued brilliance is a theme Alexander places within his eleven elements of colour—its “most essential aspect”; but it is one I think suits his metaphysical themes more broadly (as Alexander himself intimates).³⁴⁴

To put it first in terms of colour:

³⁴³ Ibid., 86. Significantly, for Lloyd Gerson intuition (which he understands as the best translation of *noesis* or *nous* in Neoplatonic literature) is “the paradigm of all cognition,” the “mental seeing” that apprehends “a unity of some sort manifested in some diversity or plurality.” In this light, it is the leading impetus in all dialectic activity. See Gerson (2023).

³⁴⁴ *TNO* 4:220.

In every case where it occurs, color which has inner light has a special kind of subdued brilliance. It is quiet, very quiet, yet bright at the same time. It is an overall single sensation, not a composition of colors, but a single overall color field—almost like a musical chord—which strikes simultaneously from all parts of the picture at once. It comes from the picture as a whole.... Even *seeing* inner light may need a little help.... To learn to see it, we must recognize that it is entirely different from the harsher, brighter color we have become used to. We have learned to enjoy bright *colors*. But we know too little about unitary *color*, an integrated field-like harmony in which a thing becomes truly one because the colors are perfectly in tune.

To illustrate this quiet bright light, Alexander uses plenty of examples, two of which we see below in Henri Matisse's *Corner of the Artist's Studio* and the façade of the Depung Monastery in Tibet.



What we are to note here is the field effect of these colours that produce in us an inner light or a “golden glow.”³⁴⁵ This pleasing quality of the colours—centers that work together so well they “melt” to form a *single* center—is not only observed in the natural world but composes the quality of “brightness” we discover there.³⁴⁶ “Very often,” states Alexander, “when we look at nature, we experience a feeling of intense and lovely color.... On a bright spring day the world seems literally filled with color. Yet objectively, even on a bright spring day, the colors are extremely pale and muted if we compare them with the paint colors [coming out of purchased tubes] we consider bright.... In nature, even the color of the sky, which we think is a bright blue, is *objectively* an immensely pale watery blue.”³⁴⁷ There is, as Alexander states, no mechanical rule that will predict the complementary colour or amount of it needed to produce this inner light, but what can be phenomenologically asserted is that “the feeling and unity increase.”³⁴⁸

We can extend this notion of a subdued brilliance beyond the realm of colour (though never quite leaving the realm of colour if our illustrations are visual) to the broader life of a painting. Alexander uses Gauguin’s *Vache Accroupie* as an example to draw out the point that when we seek to *please ourselves* truly, we are not doing something egocentric but sophianic, awakening the subject and object to that divine “I” of not-separateness. Like Emil Nolde’s wonderful childlike “basic” depiction of a sunset, in which he risks “no restraint”—that “primitive response... to dip the brush in yellow, scrawl

³⁴⁵ Alexander (2012), 441–52.

³⁴⁶ *TNO* 4:226.

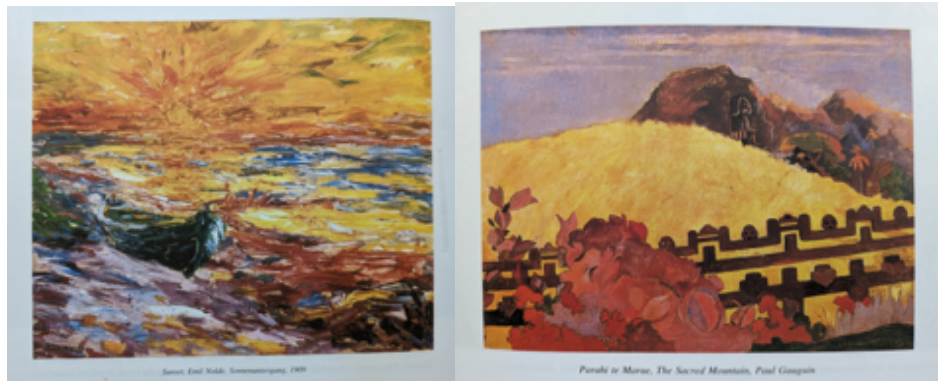
³⁴⁷ *TNO* 4:166.

³⁴⁸ *TNO* 4:185.

yellow, yellow, yellow, all over the central sun”; Gauguin’s cow is yet “more basic still.”³⁴⁹

Unlike Nolde’s explosive *Sonnenuntergang*, beautiful in its particular way, the brilliance or radiant mystery of *Vache Accroupie* that invokes inner light is its subdued quality.

Alexander compares the cow to Gauguin’s more well-known *Parahi te Marae* (*The Sacred Mountain*), describing “the cow [as] more innocent, perhaps more truly something that Gauguin liked.... The cow, so carefully placed, so beautifully drawn. All done just right. But in this picture he was, I think, only trying to please himself,” unlike, perhaps, *The Sacred Mountain*, where he had in mind “the gallery in Paris where he was sending the painting.” “He drew and painted the cow for his own pleasure. It was what he saw, what he wanted, not so knowing—constructed, yes, but far more innocent.”³⁵⁰



³⁴⁹ TNO 4:291–92.

³⁵⁰ TNO 4:292.



In other words, in our “measure-of-the-self” criterion—what most pleases us when egotistic considerations are swept aside—amounts to something like this tempered harmony; the center or whole that comes most clearly to life is the one that finds this deeper intensity. What Alexander evokes is something like John Ruskin’s distinction between typical and vital beauty, in which we importantly do not claim that *Sunset* or *The Sacred Mountain* fail to be beautiful, but distinguish between the kinds, or intensities, of beauty that we encounter. Ruskin writes,

I have... noticed the example of very pure and high typical beauty which is to be found in the lines and gradations of unsullied snow: if, passing to the edge of a sheet of it, upon the lower Alps, early in May, we find, as we are nearly sure to find, two or three little round openings pierced in it, and through these emergent, a slender, pensive, fragile flower whose small dark, purple-fringed bell hangs down and shudders over the icy cleft that it has cloven, as if partly wondering at its own

recent grave, and partly dying of very fatigue after its hard won victory; we shall be, or we ought to be, moved by a totally different impression of loveliness from that which we receive among the dead ice and the idle clouds. There is now uttered to us a call for sympathy, now offered to us an image of moral purpose and achievement, which, however unconscious or senseless the creature may indeed be that so seems to call, cannot be heard without affection, nor contemplated without worship, by any of us whose heart is rightly tuned, or whose mind is clearly and surely sighted.³⁵¹

The distinction helps us better discern what operates in us in subdued brilliance. Whereas a field of snow, a sunset, or a mountain communicate typical beauty, worthy of contemplation, that which strikes us with vital beauty touches a greater moral depth, uttering a “call for sympathy.” Whether Gauguin’s cow, or Ruskin’s flower, beauty’s inherent *pathos* reveals itself in the vital at a certain intensity that invokes a “quality of tears,” connecting us to the cow or the flower. Let us not say that this quality is absent in typical beauty—for “tears” linger too in the correct harmony between gold and pale blue—only that this quality is drawn out, or brought to the fore, in a latent singularity that breaks the field of snow, light, or landscape. A vital beauty always gestates in the womb of the typical, born to show us the miracle of the snow or grassy field and the spirit silently at work in it. On the other hand, there is nothing all that subdued about the singularity of a Gothic construction such as Westminster Abbey or Milan Cathedral, but we can

³⁵¹ Ruskin (2010a), 367.

nevertheless note the curiosity that it is by a million singular blows on stone wrought by a thousand singular hands that bring these terrible “alps” to life.³⁵²

A “subdued brilliance,” we may say, describes the *pathos* we seek in all that truly delights and pleases and names that by which we might distinguish between superficial and awesome beauty, between what is typical and those things that better approximate the self, as, for instance, in Alexander’s example of a blue worn bench (discussed in section two). Subdued beauty invokes the feminine character of Sophia—her *receptive* nature—in which a thing may grow in beauty the more that life rubs against it. An implicit diminishment occurs in the giving over of a thing to the environment, yet its essence increases the more intensively it is related to this time and space of its home. This “discord in concord” is something like *wabi-sabi*, save that in a sophiological ontology, the suffering or *pathos* (or waiting)³⁵³ to which we are exposed is not the suffering of, say, the cherry blossom, whose beauty is rooted in that ethereal moment between glory and death—rooted, that is, in what cannot hold—but in *life*, which results from that eternal, trinitarian self-oblation (*kenosis*) marked upon every creature. Gauguin’s cow invites us to tears, to a joy elevated by *pathos* that returns us to the humble mood when we stand present before being’s surprise. Of course, in order to partake of it, or in order to paint or build anything

³⁵² The allusion here is Ruskin’s: “This look of a mountain brotherhood between the cathedral and the Alp.” See Ruskin (2010b), 16.

³⁵³ On this theme, see Vanstone (1982).

like it, we must ourselves undergo this subdued brilliance (i.e., negative capability), actively receiving these gifts by surrendering before them our lesser selves.³⁵⁴

5.8 **Sowing Death:** *The Utopian Anthropology of System B*

There is a harmony struck, a mixture of proportional elements that come to life to produce inner light, guiding us to unfold the essences of phenomena in our pursuit of beauty. In this prologue to Alexander's creative process, we have established the method (delicate empiricism) that is itself the posture (negative capability) that brings us into harmony with the gentle respirations (trinitarian dynamism) of the world soul. The necessary posture of humility, the posture that pleases the (non-egoistic) self, which orients our attempts at making, makes of our efforts a "gift from God."

But there are more insidious forces working against our attempts to thrive within a System A approach. System B lives not only in the presentiments of ego but shapes society and culture in ways now taken for granted,³⁵⁵ from how we do politics to how we allow the arts to flourish (if we do); and, indeed, "the arts" as a distinct venue in which creativity occurs already betrays System B's effective dominance. We are all creatures of System A, respondents to a porous reality of *qualia*, whether we are so-called artists or whether we are cooks in our own kitchen, "tast[ing] a soup while cooking it, checking it, modifying it

³⁵⁴ And one is obliged to note that, in spite of his beautiful work, Gauguin had a host of lesser selves he would fail to surrender, manifest in his pedophilic activity while living in Tahiti. In this light, *Vache Accroupie* becomes a stern indictment, by his own hand, of a simplicity he would never correlate to the moral life.

³⁵⁵ George Grant makes this a central thesis of his work. Technology, and the *vita activa* it presumes, have effectively eclipsed our ability to "think justice lucidly" so that we no longer have the language or grammar in which to inhabit the disposition of a *vita contemplativa*. Grant (1998), 406. For good commentary on Grant's work, see Schindler (2018), 3-31.

until it tastes just right.”³⁵⁶ In order for us to understand the creative process we must understand, too, the subtle presuppositions of System B approaches, with their emphases on profit and speed—and, as we will also note, their “death wish”—which work against our better efforts.

In the System A approach, writes Alexander, “it is always the wholeness of the place that matters.”³⁵⁷ This means the eschewal of *pecuniary reason*, that which places profit and structures of efficiency in a position of priority and thus rules out an emphasis on “place” (the contours of the land) paired with “pattern” (the implementation of a community’s “hopes and dreams”) and the needed *time* it requires to find these dreams as potencies unfolding from within these contours.³⁵⁸ In a System B approach, speed is obviously of the essence. Efficiency equals less labour and less time; it also supposes that buildings are made “to be bought and sold and hired out.” Resale and financial return are the ends with which we compromise our own delight. *Convention*, therefore, orients our decisions—though convention, admittedly, is not always oriented toward profit or efficiency. As Alexander points out in his work on the Eishin campus, an early dispute in the “pattern” of the campus (i.e., the major entities/centers that would constitute the school) turned on whether to include a large athletics track. While System B demanded this convention (what school, after all, forfeits the possibility of an athletics track?), the convention would sacrifice the emotional wholeness of the campus. “The monolithic oval

³⁵⁶ Alexander (2012), 19.

³⁵⁷ *Ibid.*, 164.

³⁵⁸ *Ibid.*, 169.

of a big running track was just too dominant physically to be accommodated, and it would inevitably throw the atmosphere of this campus out of balance.”³⁵⁹

While this is not a pecuniary decision, there is yet a mechanical presupposition at work: an athletics track was not only an established convention (a predetermined need of every school with a budget), but it was also an *easier* pattern to grasp onto in the creative stage before building. “Of course the athletics track is more tangible, in its definiteness, than all these other things prescribed by the pattern language.”³⁶⁰ A convention such as this, however, abstracts us from ourselves, it does not seek the “measure of the self” but allows itself to be determined from seemingly more “tangible” or “definite” outside systems. “System-A says we need the subtle and beautiful environment filled with a lake, and gardens, and paths, and small outdoor places for the spirit of the students who are growing into adulthood. Let us then have all kinds of smaller sports field and sports facilities in the outer precinct as defined in the pattern language and have the athletics track somewhere else, or get one later, when we can afford more land.”³⁶¹ A convention is not merely an assurance of profit (say, for re-sale) but also acts as an escape from the fear of risk, a compromise of delight for sober practicalities when other options were available but less tangible (“smaller sports fields in the outer precinct as defined in the pattern language”) and therefore less safe. But humility is not really humility, of course, if we are not willing to risk foolishness.

³⁵⁹ Alexander (2012), 157.

³⁶⁰ Ibid., 156.

³⁶¹ Alexander (2012), 156.

However, the impulse toward capital remains the most insidious danger facing architecture, whether this impulse is shaped by greed, convention, or the fear of devastating financial loss. Fear is understandable: those with dependents or hard-earned savings are not necessarily consumed by profit motives—or not, at least, by personal greed. But profit motives consume them anyway insofar as these gradually make every human environment, including their own, unlivable. “The use of money to make money,” writes Alexander, “which ‘inspired’ Western society in the 20th century, and which has quaintly been called ‘democracy’ and euphemistically ‘the market economy,’ did produce great wealth for a few. But not for most people. And it has ravaged our environment. None of it unites people with the land they love; indeed, most often the land that is left, cannot be loved.”³⁶²

If we are not, thus, making a world which delights us, nor, concomitantly (in our sophiological argument), “a world that enjoys itself,”³⁶³ then what in particular are we pursuing? If practicality does not align with *life*, then with what are we doing commerce? Byung-Chul Han suggests a death drive, or being toward death, sits at the heart of our economic choices within the modern capitalistic enterprise. Describing Freud’s interpretation of a death drive, Han states, “At some point in time—so he speculates—the properties of life were evoked in inanimate matter by a strong force acting on it. This introduced into the previously dead matter a tension that had to be resolved, and thus living beings came to possess a drive to return to the inanimate condition. The death drive

³⁶² Ibid., 76.

³⁶³ Ibid., 460.

was born: ‘*The aim of all life is death,*’ and, looking backwards... ‘*inanimate things existed before living ones.*’”³⁶⁴ In other words, life emerges out of a primordial death, an origin that sets the *telos* for its return: a homeostatic pull back to the grave. Albeit, in this light, there really is no life to begin with, nor is there a grave that supposes any loss of life; all is, rather, simply an iteration of death. However, as Han argues, Freud never discerns between creatures in this theory; this *eros* toward death appears the same in a starfish as it does in a human. Yet, Han points out, “the death drive... does not explain the decidedly narcissistic enjoyment that the ego takes in sadistic violence. In order to account for sadism, there must be an altogether different kind of destructive drive.”³⁶⁵

By “sadism,” Han means the spectra of controls we place upon life, an *eros* that would seem not so much a being toward death as the very fight against it. “Capitalism,” he writes, “rests on a negation of death. Capital is accumulated as a defence against death, against absolute loss.” But what we are stockpiling is far from innocuous—it is, for Han, an accrual of “violence” or “killing power”:

The economy of violence is ruled by a logic of accumulation. The more violence you exert, the more powerful you feel. Accumulated killing power produces a feeling of growth, force, power—of invulnerability and immortality. The narcissistic enjoyment human beings take in sadistic violence is based on just this increase in power.

³⁶⁴ Han (2021), 2–3.

³⁶⁵ *Ibid.*, 5.

Killing protects against death. An increase in killing power means a reduction in death. The nuclear arms race also mirrors the capitalist economy of violence.³⁶⁶

In this “necropolis,” as Han calls modern capitalist economies, vulnerability as a value that places us in a proper disposition toward being is drowned out. A sadism invoking a control over death results; it becomes something of a master explanatory term, manifesting not only in the greedy but also, to a lesser degree, in a meeker class who, thrust too into capitalism’s torrents, make violent choices against themselves and their environment, thwarting the becoming of either in the interest of a practical and controlled future. This plays out as well, Han notes, in the nuclear arms race, but we may also see its reflection in biomedical analogies, such as the increased desire for a euthanasia whose warrant no longer resides in mercy—and therefore in *relation* (i.e., to someone who exercises that mercy)—but in choice or control; death “los[es] its significance as something that belongs to me as my last act.”³⁶⁷ In euthanasia, our final act is one of gross self-estrangement, a tragic evasion of self-becoming that falls further away from life than death itself.

Yet this sadistic nihilism may not appear as such in the will and intellect of the soul who pursues these controls. Rather, it may take the form of *meaning*, which is likely the only way to sufficiently explain how a creature, so irrevocably oriented toward meaning, moves against its own purpose. To put it another way, to be viable, capitalism (or System

³⁶⁶ Han (2021), 6.

³⁶⁷ Cayley (2021), 237.

B) must repackage a sophiological anthropology. For instance, the sort of “corporate humanism” that has persisted from the first inception of Taylorism (after Frederick Taylor) into the present day seeks to enchant this sadistic death drive with a *faux* sophiology, a “beatific vision for control freaks,” as Eugene McCarraher puts it.³⁶⁸ “The aim of scientific management [Taylorism] was to ‘make men’ and rebuild their characters; indeed, as Taylor and his disciples often pointed out, the reconstruction and even redemption of men was its primary goal.”³⁶⁹ To merely insist that scientific management was an attempt at human engineering is, as McCarraher argues, banal, a cynical version of events that fails to see into Taylorism the earnest vision of its founder.

What’s more intriguing, as well as more disturbing, is its larger and deeper aspirations. Taylor’s ominous pronouncement in *The Principles of Scientific Management*—“in the past the man was first. In the future the system will be first”—was, to his mind, an augury of beatitude, a declaration of industrial interdependence in which all would find fulfillment. Taylor always presented scientific management not merely as a technique of productive efficiency but also as a program for a corporate humanism. Taylor insisted on the profoundly humane implications of industrial discipline. Musing that “a life which is one continuous struggle with other men is hardly worth living,” Taylor saw the end of this Hobbesian war in the embrace of his managerial wisdom. With the adoption of scientific management, class war in the workplace would give way to “close, intimate,

³⁶⁸ McCarraher (2019), 217.

³⁶⁹ *Ibid.*, 219.

personal cooperation between the management and the men.” In a visionary gesture to the end of alienation, Taylor imagined a corporate self, a moral personality constructed on the basis of labor and scientific knowledge. In a properly managed workplace, “each man possesses his own individuality and loses none of his originality and proper personal initiative,” while at the same time agreeing to be “controlled by and... work harmoniously with many other men.”³⁷⁰

Nothing here is out of step with the contemporary Google-model of human resources. Indeed, one may conjecture that it is out of just such a redemptory model that offices now provide, for instance, free organic snacks and coffee, the emphasis being on *health*, as well as such techniques as “20% time” with its nod to the creative freedom of the human soul (i.e., “originality and proper personal initiative”).³⁷¹ Of course, this is no less a part of the machine than the other 80 percent of the week where the creativity of the employee, along with his good health, is given entirely over to the “life” of the system; employees are not fed, they are consumed, victims of a worse irony than that in which the so-called consumer finds himself.

In our look at delicate empiricism and its generative approach, we have noted the relationship of the human soul’s experience to the ideas or forms (or life) in the world (the related centers around him), one which illustrates a dynamism because it first supposes

³⁷⁰ McCarraher (2019), 220.

³⁷¹ This is the novel policy implemented by Google in 2004, described by cofounders Larry Page and Sergey Brin: “We encourage our employees, in addition to their regular projects, to spend 20 percent of their time working on what they think will most benefit Google.” See Clark (2021).

an eternal relationship that grounds the experience of the I in and toward the world. There is, in other words, a triadic relationship of the *self* to the *horizontal*, resting upon a gradually realized prior *verticality*. But what kind of empirical relationship are we in with things in a System B approach? We may say none at all: not only are we cut off from the forms—that is, the physico-noetic life of Sophia—but in being so cut off we have no empiricism, or experience, to speak of; we are enmeshed in a sophianic counterfeit. The soul courts the shadow fragments of what now stands in Sophia’s place: mammon in place of form, abstraction in place of experience, and control as the *telos* that combines these and drives them in the sole direction toward which they lead, death.

5.9 **Conclusion:** *Does System A Merely Grope for the Past?*

In Mark Twain’s *A Connecticut Yankee in King Arthur’s Court*, a gun factory manager, Hank Morgan, wakes up in sixth-century England where, escaping near execution, he “swiftly debunks and usurps the official regime of Arthurian enchantment, especially Merlin the magician, who becomes his most intrepid antagonist.”³⁷² As McCarraher notes, the tale becomes a battle between two distinct forms of magic: Over against Merlin’s ancient, druidic magic, Morgan levies an “enormous apparatus of industry, transport, and communication”³⁷³ to create, as he says in the novel, “the nuclei of future vast factories, the iron and steel missionaries of my future civilization.”³⁷⁴ “Spells, incantations, and prayers,” McCarraher writes, “give way to scientific enlightenment and technological

³⁷² McCarraher (2019), 213.

³⁷³ Ibid.

³⁷⁴ Quoted in McCarraher (2019), 213.

mastery.... Serfs learn to read, nobles become railway conductors, knights exchange errantry for careers as salespeople of mouthwash, toothpaste, and polish.”³⁷⁵

To indulge the metaphor, we might extend it to describe Alexander’s arrival in modern-day Japan—or indeed, in any region where he attempts to implement structure-preserving generative building (the spirit of Hank Morgan seemed to haunt him in every project)—where he is met by the hand of an over-reaching managerial bureaucracy, one manifest not only in its authorities (e.g., politicians and technocrats) but in an *ethos* in which even farmers by then had long been steeped. In *Battle for the Life and Beauty of the Earth*, following his research on the dreams and hopes of the Eishin school community, Alexander plants flags in the ground according to the tentative pattern language considered for the layout. An important part of the generative process (that is, of the contemplative System-A method), this practice is a further engagement of the imagination; Alexander, along with the community, would walk about the flagged borders and envisage a living geometry—angles, light, scenery, positive space between entities, etc.—of the potential placements of gates, ponds, and buildings. It is a creative endeavour in which all partake, discovering new personal investments in the land (as well as, ideally, in one another). Alexander writes,

When we think about buildings we assume, naturally, that the buildings are the most important

³⁷⁵ Ibid.

entities, and we assume then that if we place them well, that will be the end of the problem. *But this is not the case....* When we were walking about on the land, long before it was a campus, we naturally felt inspired to walk, and stand, and sit, in certain places.... Other places did not encourage us to go there, did not cause us to have positive pleasure, did not make us feel, in our hearts, that we had arrived at a place which we very definitely wanted to inhabit, and wanted to stay there.... These are the places which must be marked, and furnished with enclosure, and views and furniture.³⁷⁶

In the light of this spiritually-guided task—in which we assume a porosity to being in our ability to detect “thin places” of opening, and those less so—design evolves *during* construction so that control over design “does not stop when drawings are finished, but goes on, continuously, during and after construction.”³⁷⁷ Following flag placement, mock-ups are then made, literal cardboard versions of gates, posts, pillars, walls, tiles, etc. that may be easily moved around so that each finds its best place. As simple as such practices seem, they are the very practices that put building and design back into the hands of a non-architectural, non-managerial class, “because they are bringing forth the real content of their own existence, becoming aware of what their bodies know [in an] activity that allows

³⁷⁶ Alexander (2012), 197.

³⁷⁷ Ibid., 305. Interestingly, architectural drawings themselves have their own evolutionary arch from System A to System B. Where architects had practiced from the days of Andrea Palladio water-colour drawings in order to invoke an atmosphere as much as the design of the building itself, evidencing a further contemplative attunement to an idea’s unfolding (combining the dialectical signposts of *finesse* and *geometry*); later architects, most notably Le Corbusier, would do away with this method, enforcing one in which drawings were now representations of geometry, black ink on white paper. See Perez-Gomez (2016), 18.

their instincts to reveal previously undreamt-of knowledge about themselves.”³⁷⁸ It is an anamnestic discovery of what they and the world most profoundly are.

However, as the result of issues with land assembly, surrounding farmers incited the removal of the flags one morning, a detailed event with many intricacies, involving Japanese land brokerage laws. The upshot, for Alexander, was the beginning of “an obsessive use of the language of money as the basis for decision-making, rather than the wholeness of the land”—only the first in an ongoing series of events that would incite not only bribery but threats of real violence from Japanese construction firms who saw existential peril in allowing System A productions to carry on.

In this light, it is hard to charge Alexander’s System A approach with nostalgic groping for lost, traditional ways—a mere Merlin of the past travelling out of his own time to influence, even impose upon, our own (Twain’s Hank Morgan in reverse). For one, Alexander makes much use of new methods (machinery, concrete, steel, e.g., all fall within his repertoire). Two, a common-sense syllogism sees the very existence of System B as a model that *does not naturally support itself*. System B imposes and gropes. If it cannot attain its wishes through monetary incentives, it then resorts to violence; thus, under the enchantments and spells of mammon lies a Faustian reality—the sadism or control that compels the mechanization of any natural system or institution. Three, and most importantly, on the charge of nostalgia, System A has *not been lost*, for it manifests in *method* what we are in *fact*: spiritual. “System-A itself,” Alexander states, “is emphatically

³⁷⁸ Ibid., 482.

not a re-creation of any past era. It is something entirely new, a production system made today. In its present form, it exists for the first time”—that is, it is not merely an identical repetition of past times but the processes of the human heart brought to bear upon a new context, amongst new forms of being and making.³⁷⁹ “It relies on a new kind of humane organization of building and creative processes and is carried out in a highly modern, even avant-garde form, acceptable for our time, and congruent with the technical marvels we have come to expect every day. Its essence lies in the focus on human experience—on feeling, on well-being, on the possibility of living a deeply contemplated life.”³⁸⁰

Thus having described Alexander’s creative process as one which entails a contemplative, active-receptive approach, let us now look at certain fruits of this method. Where we have sought to articulate the apophatic character of Alexander’s work (“negative capability”), we will now seek to draw out the cataphatic features that the latter bears forth. We will do this by looking at Alexander’s well-known and controversial fifteen properties of living form.

³⁷⁹ Or we might put it the provocative way of Ernst Osterkamp: “Only what does not deviate from the laws of nature can be classic.” Osterkamp, quoted in Pirholt (2021), 4.

³⁸⁰ Pirholt (2021), 58.

6. PATTERNS AND PROPERTIES

6.1 **Laws and Recipes:** *Do Alexander's Fifteen Properties Exhaust Beauty?*

On some level, a description of the creative process is only ever an extended and sustained prolegomenon: whatever illumines the way is ultimately a mystery beyond perfect expression. With Paul Claudel we might say “there are no laws, only recipes.” Each successful creative endeavour is like a word spoken but once, its wholeness the result of a mixture peculiar to it. But then what are we to make of theories like Alexander’s “pattern language” or “fifteen properties,” both of which appear to present us with a list of beauty’s qualities? To describe beauty within a seemingly exhaustible list of, say, fifteen properties, is to claim that beauty, wherever she goes, may be reduced to these properties. And it seems to suppose, moreover, that we can conjure beauty by simply whipping these qualities together, similar to an A.I. algorithm.

In a general response to this argument, we might say the pattern language and the fifteen properties, our themes for this chapter, do not seek to rein in and expose the intimate spiritual component (whose love we know not through discursive intelligence but because we feel, trust, and pursue it) but to set certain signposts that may guide it as well as lend resolution to problems met along the way. Yet, true as that statement is, it remains a mere safe response to Alexander’s proposal, a response that all classes of artists and intellectuals (premodern and post-modern, liberal and conservative) can settle into perhaps too comfortably. For Alexander proposes not merely *signposts* but indeed *laws* of a kind. What his theory of the fifteen properties amounts to are general laws that seek to describe characteristics of beauty present in *any* instance of her; thus, on some level,

these describe the form of beauty herself, particularly in the sensible (predominantly visual) realm of aesthetics. If a story doesn't follow certain laws, it is not a story; there are certain structural exigencies that govern any form, but insofar as we recognize and remain within those laws, we discover—in that paradox characteristic of artistic encounter—there are no laws or, at least, limits. The painter finds his *freedom* within the *boundaries* of a canvas, the flutist, the musical scales, the athlete, the field, and so on. Even *Ulysses* or *Finnegans Wake*, in their thirst for new form, still approximate, if not follow, the stanchions of what we call *story* (if they did not, we would categorize these novels as something other than novels). Indeed, in his oblique approach, Joyce discovers latent motifs that were always already in past stories and elevates them, in the same way that we might now observe the Kafkaesque as present in the world before Kafka.³⁸¹ The infinity of freedom requires structure; the structureless, opposing and constraining freedom, is mere chaos.

Does this rescue us from *aporia*? Do Alexander's laws *define* beauty exhaustively? Are we here being drawn into the Aristotelian camp, to the detriment of the Platonic (with its preference for the mysterious "I know only that I know not")? We are not, for we cannot define something whose final cause we do not know or cannot comprehend. What a story's nature is, or what beauty's nature is, is an ipseity; it cannot be grasped: they are *for themselves* and as such *for us*—*qualia* that are good for their own sake and thereby communicate themselves as meaningful in a way which extends beyond the horizon of our cognitive grasp. In this light, even a fly cannot be sufficiently known or exhaustively

³⁸¹ See Borges (1964).

defined, let alone virtue (*Meno*) or piety (*Euthyphro*) or love (*Symposium*).³⁸² Our knowing is always incomplete, or complete only insofar as it is aporetic. If we couldn't distinguish final causes all would be a blur. And yet this aporia is not a dissemblance of the reality we know but its very stability, the stability of an eternity incommensurate with our knowing that nevertheless offers itself entirely to be known (and thus loved).

Importantly, the general laws that Alexander offers us may only be called laws (rather than, say, arbitrary impositions of a single man's limited tastes) because they are those properties which enable *transformation*. In other words, why each property has a place at the table is because it helps a form be insofar as being for any center is simultaneously a being-in-relation to other centers. Instead of disruption and destruction of older forms, these properties maintain older centers while also helping bring new ones to light. They hold the fabric together, as it were, and therefore express the vitality of the unfolding of *nous* or the coming to be (i.e., hypostatization) of Sophia. They govern the ipseity or good-in-itself-ness of each (actual and potential) center. Much like love—in which selfhood is sustained in relation and relation requires selves for union—the properties express this tension, or harmony. It is a romance among the parts, each of which is itself a whole in love with the whole to which it belongs. These properties are, therefore, relational; they explain the unity of the differentiated multitude such that love is not, perhaps, merely an analogy.³⁸³

³⁸² In Aquinas's prologue to his *Exposition on the Apostle's Creed*, he writes, "But our manner of knowing is so weak that no philosopher could perfectly investigate the nature of even one little fly."

³⁸³ We may also call these properties a "relational taxonomy," one that is not set over against other taxonomies (Aristotelian, Linnean, etc.) but may work in concert with them, in the spirit of Gemma Anderson's work at the NHM, London; there she offers her "isomorphology," a form language of shared structural characteristics that "intend to blur normative animal, vegetable and mineral boundaries," and

Read other than in this way—that is, as properties of relational transformation—the fifteen properties and pattern languages will fall flat, or suffer the misreading of those who will too quickly conclude Alexander’s proposal is a sort of Euclidean system in which mathematically exacting geometries determine beauty. In fact, for Alexander, it is the opposite. But it nonetheless remains true that wherever beauty goes, she will, for him, in infinite mixtures or recipes, evidence these structural characteristics. They are what come to be when we are gentle in our empiricism, and when we abide the mystery that calls us away from ego into the *passio* of the process “whose force takes over and replaces the willful act of creation.”³⁸⁴ These patterns and properties express not only a shape in nature but a shape in us, who, as artists, are their measure. But we will see, too, that what this measure of the self exhibits is the *natura naturans* present in all life, the creative movement within nature itself, insofar as natural form—trees, birds, bodies, clouds—each communicate these properties with the same delicacy as a Matisse.

In this section, I will look first at the fifteen properties, as forming Alexander’s mature and established theory of life. Following, we must look at the underlying force that brings these properties to life in reality; this section will revolve around Alexander’s notion of teleology—specifically, whether this is a formed theory or whether we need to attend carefully to his meanings beyond his words. Our answer will require us to look at the

demonstrate “alternative ways to classify natural life across kingdoms.” Anderson (2019), 80. With Alexander’s taxonomy, however, we cross (and blur) the further boundary of the human artifact, blurring also that Cartesian boundary between mind and space insofar as the human mind appears attuned to the formal characteristics of beauty expressed in nature. For further reading on plural taxonomies, see Dupre (1995).

³⁸⁴ Alexander (1979), 160.

implications of teleology in the physical-material world and to discern just *what sort of life* abides there.

6.2 THE FIFTEEN PROPERTIES: *The Central Theme and Major Argument of Alexander's Later Work*

It would seem that life appears in objects and that, when we note this quality of life, we are simultaneously consulting a measure within ourselves. We have explicated the inner operations of this measure and its connection to a world outside in depth; this measure confounds subject-object division in the Cartesian manner (and thus confounds placements like “outside”). But we have yet to describe the physical character of objects themselves apprehended when our measure recollects this harmony—an omission that would leave the “outside,” physical world in as perilous an indeterminacy as that of the inner world when left to modern, subjectivist presuppositions. If the inner self is not a pure flux of identities (where, of course, identity as such could not obtain), if, that is, we may suppose an inner structure, we might then also suppose one in the physical world—an outer structure of qualities that contribute to the “wholes” and “centers” we behold. The question for us here—as it was for decades for Alexander—is, What do objects which evince life (a room, a garden, a window, a face) each hold in common?

For twenty years, I spent two or three hours a day looking at pairs of things—
buildings, tiles, stones, windows, carpets, figures, carvings of flowers, paths, seats,
furniture, streets, paintings, fountains, doorways, arches, friezes—comparing

them, and asking myself: *Which one has more life?* And then asking: *What are the common features of the examples that have most life?*... I managed to identify fifteen structural features which appear again and again in things which do have life. These are: 1. Levels of Scale, 2. Strong Centers, 3. Boundaries, 4. Alternating Repetition, 5. Positive Space, 6. Good Shape, 7. Local Symmetries, 8. Deep Interlock and Ambiguity, 9. Contrast, 10. Gradients, 11. Roughness, 12. Echoes, 13. The Void, 14. Simplicity and Inner Calm, 15. Not-Separateness.³⁸⁵

Until 1985, Alexander jotted these down as observations without any locus of coherency in which to link them. In other words, he did not “really understand what these fifteen properties *were*,” beyond the fact that they each seemed to have a predictive character of whether a thing would have life or not.³⁸⁶ Coherency emerged, however, within the properties of “centers” themselves. While centers had, at first, been just another one of the fifteen properties, Alexander started to see that this one had a kind of “logical priority over the others.”³⁸⁷

During those many years of observation, I often asked myself what these fifteen properties signified, what they *are*, what they *do*. And finally, I came to understand that all of them are, in effect, just the fifteen ways in which centers can help each

³⁸⁵ TNO 1:144.

³⁸⁶ TNO 1:144.

³⁸⁷ TNO 1:144.

other come to life. I came to understand that they work, they make things have life, *because* they are the ways in which centers can help each other in space.³⁸⁸

At this juncture, let us take some time to go over Alexander's fifteen properties one by one, insofar as it offers a significant discovery to the craftsman and artist, and insofar as these properties express the major and central argument in Alexander's later work. These fifteen properties can be approached on two levels of consideration: one, as those that appear phenomenologically in beautiful art or natural forms; two, as explicit signposts in the creative process itself, which assist us as artists and builders in our work (but which do not, to be continually mindful of this caveat, *do the work* for us).

Below I will describe each of the fifteen properties, using examples of natural form and human artifice to illustrate. In this way, my description of the fifteen properties will present something of a digest of volume 1 of *Nature of Order*, and in particular, chapters 5 and 6 (which amount to about a third of the volume's text), and most of volume 2, which comprises chapters representing each of these qualities, discussed in the context of the creative process. Along the way, I will add philosophical insights from a complementary sophianic metaphysics to fill out Alexander's "modified physics" and connect these properties to his wider vision.³⁸⁹

³⁸⁸ TNO 1:145.

³⁸⁹ The following section is best read alongside the accompanying photos in 6.3.

6.2.1 LEVELS OF SCALE

Beautiful things exhibit various levels of scale: “The centers [that compose an object] tend to have a beautiful range of sizes... [that] exist at a series of well-marked levels, with definite jumps between them.”³⁹⁰ A brooch, a tree root, a building floor plan, a rug, a topographical map (of a city or of a forest) each illustrate an ordered complexity of relations at multiple levels of scale. “This observation may seem obvious—almost tautological,” Alexander writes, “but it is not obvious at all.” Many things built in at least the last hundred years seem to betray an ignorance of this fact, a willingness to reject it, or a profit principle to justify scrapping it. As Jennifer Quillen notes, without levels of scale in the human-built environment, orientation becomes a problem. A military base, for instance, an airplane hangar, or a WalMart box store express a single obtuse scale that acts to dissemble its purpose as well as to complicate how we navigate it (dissemblance perhaps intentional on the part of the military base, while more of a contingency for a WalMart, whose principle mandate is to cut costs on materials). On the other hand, the “lively interaction of many distinct scales, reinforced and enhanced through colour,” framing, window sizing, signage, lighting, and building materials not only radiate an atmosphere and set a tone but—amongst other functional practicalities—help us find the front door.³⁹¹

“If you compare any two things,” says Alexander, “one with more life and one with less, it is very likely the one with more life will have better levels of scale in it.” However, as

³⁹⁰ *TNO* 1:145.

³⁹¹ Quillen (2007), 17–18.

he points out, the idea is “more subtle than it seems.”³⁹² To further illustrate, he offers a photo of two juxtaposed doors, seen below (see ch. 6.3 for accompanying photos). They both offer different levels of scale in the panels, jamb, moldings, and handles, yet the old Irish door on the right possesses “a variety of sizes.” It is “more dramatically differentiated, more ‘extended’ along the range of scale than the door on the left.” The old Irish door features three levels of scale in its panels: “The stiles are smaller than the jambs”; and it has a handle which (though unclear in the photo) “has levels of scale within itself in the lock and in the finger plate.” The door on the left features eighteen identical panels, equal in scale, but the sheer number of them does almost nothing for it. The door on the right has *more* levels of scale, but it is not just this alone that increases life. Here, Alexander describes the “subtlety” one easily passes over when noting the properties attributed to objects with life: in the door on the left “what is really missing is the degree to which the centers help one another. In the right-hand door this helping is made to occur *by* the levels of scale. “The actual life of each center comes about because it is enlivened by the size and position of the next larger center which lies near it, and by the size and position of the next smaller center which lies near it.... In the left-hand door the detail is there—but the detail isn’t *doing* anything to create life in the larger centers, and is therefore almost meaningless.”³⁹³ “Levels of scale” is therefore a property which invokes an interrelation at each level, in the same way cells, tissues, and organs interrelate on levels of scale to compose an organism:³⁹⁴ These are not a palimpsest of imposed disruptions, sidled into

³⁹² TNO 1:146.

³⁹³ TNO 1:146.

³⁹⁴ Quillien (2007), 16.

interesting places, but are each unfolding or latent (*enfolded*) in the whole as such. In other words, these scales are not centers *added* but centers generated through *differentiation*, a discontinuity that is nevertheless implicit and thus continuous with the center out of which it emerges. This is why certain structures or artwork which exhibit levels of scale fail nonetheless to invoke life, as in Josef Albers's painting, or the concrete wall pictured below. The leap in scale is too great; relationship cannot subsist between the parts.

In the creative process, a transformation to a center which lacks scale, and therefore life, may involve introducing "intermediate-sized centers" in order to establish a harmony within a hierarchy of scales. "In this case, some zone that has been loosely distinguished is differentiated further into smaller parts." Likewise, "a large center is made more coherent and distinct by the introduction of smaller parts," which then produce another harmony of hierarchy between scales.³⁹⁵

6.2.2. STRONG CENTERS

Centers are a cornerstone to Alexander's theory of life—they are, indeed, those beings which communicate life, making the terms (life and center) nearly equivalent. However, a center "as [an *element*] of the wholeness" is a different emphasis than is the varying *strengths* centers have within a whole.³⁹⁶ "I began to notice that, next to the property of levels of scale, possibly the most important feature of a thing which is alive is that we find

³⁹⁵ TNO 2:77.

³⁹⁶ TNO 1:151.

that the various wholes which exist at different levels appear not merely as centers or ‘wholes’ or ‘blobs,’ but as *strong* centers.”³⁹⁷

Alexander contrasts the mosque of Kairouan with a house by architect Bruce Goff, in which we observe two rather bland surfaces. But even the roof of the mosque, bare as it is, communicates more life in relating stronger centers: The three domes of different scale create a field effect that enhances the main dome. The strongest center is the main dome, but this does not make the smaller domes *weak* centers, for they have been made recursively strong by the main dome, as the main dome has been strengthened by them. Goff’s house, on the other hand, though it pretends at organicism, lacks strong centers: “Its elements are amorphous in a definite and intentional fashion, which prevents them from being strong centers.”³⁹⁸ The position of the parts fail to intensify one another—“elements stand in isolation.” Indeed, if organicism is the key, then we need not look farther than the organic world itself, where Goff’s conceptual aesthetics are quickly exorcised—where flowers, electrons, and coral organize themselves around or through strong centers. Alexander gives us the example of a splashing milk drop, in which small spheres at the end of the rays give the event the appearance of a crown in strengthening the main ring—an instance, again, in which centers of different levels of scale recursively strengthen one another in the visual field.³⁹⁹

“In general,” Quillien writes, “the strength of a center—or its degree of life—is a measure of its organization. Conceivably this could be measured by a center’s ability to

³⁹⁷ *TNO* 1:151.

³⁹⁸ *TNO* 1:152.

³⁹⁹ *TNO* 1:251.

resist disruption, or by its influence on the centers around it or by its lifetime.”⁴⁰⁰ Resisting disruption, however, ought not to be read as sustaining stasis; while it resists disruption, a center is also the site of “catastrophe”—that is, the site in which radical new structure primarily occurs, yet what is catastrophic (Alexander invokes the mathematical meaning of the term, where “new features appear in a non-continuous fashion from old features”) nevertheless makes a “smooth” transition, so that no actual *disruption* really occurs; within the dynamism (i.e., actualized potencies) of the form, transitions are always “gentle”; differentiation of parts occurs not separately from the whole—what we would call true disruption—but within the activity of the whole (see photo).⁴⁰¹ Everything, for instance, in the series of photos below may look a mess, a catastrophic disruption from one photo to the next. However, each photo marks a stage in the action *organized around a strong center*, from the first drop to the splash to what almost looks like the drop’s re-emergence. In fact, the true disruption may only occur a moment later when the surface of the milk becomes *still* (at least if we take the droplet as the principle center, not the bowl of milk itself). “In general, in any system where one center forms, as structure-preserving transformations occur, other smaller centers will then emerge, will be intensified and themselves strengthened in just such a way that by virtue of their position and arrangement they intensify the first center.”⁴⁰²

This maps onto the built environment in certain self-evident ways, though, as Alexander argues, it has become less and less self-evident in modern times. He offers us

⁴⁰⁰ Quillien (2007), 12.

⁴⁰¹ *TNO* 2:23–25.

⁴⁰² *TNO* 2:67.

the poignant example of modern buildings, alongside the typical (modern) family home, which lack strong centers because we no longer know “what to put at *the* center”: “A typical house of a modern family. What is the center? Above I show a typical house [see photo] with a number of rooms and a little clarity. It reflects a situation where people wander in and out, relationships change, little is stable. The plan itself lacks a center, even in the physical organization, which perhaps reflects a lack of center in the modern idea of a family.” But what, he asks, *is* the center?

What function could there be at the center that is important enough to make the building have a series of levels in this fashion? The kitchen? The movies or CDs of the day? The living room? These functions, though important, are too neutral emotionally to be able to carry a powerful geometric center. What once were powerful centers—the fire, the marriage bed, the table—no longer have this power, because individually and as families we are not centered in ourselves. The emotional confusion of the present-day family reveals itself in the lack of power in these centers of the house.⁴⁰³

Communities, particularly in North America, likewise lack these strong centers which bind individuals together meaningfully, whether it is the absence of churches, pubs, plazas, parks, or whether it is an urban layout of strip malls, box stores, or gas-stations that

⁴⁰³ TNO 1:155.

obscure or occlude these potential centers. “*There is no there, there,*”⁴⁰⁴ Gertrude Stein writes regarding the phenomenon of these urban and suburban neighbourhoods—a reality from which we suffer, and to which we contribute, disconnecting ourselves as we do from this uninspiring disarray when we escape into our phones, becoming weak centers ourselves, no longer reciprocally drawing and lending strength to our environment.

In the creative process, strong centers are what *organize* weaker centers; the latter are made more emphatic the “more strongly defined” and “integrated” they are into the fabric of the whole. Attention will require noting balances between continuity and discontinuity. In general, if one hasn’t a strong center, one may do best by starting again; albeit, an abiding intuition—the anamnestic pull toward a not yet fully formed center (one thinks of the musician attempting to find a chord progression, the center around which the tune will be organized)—could be what leads one there. One must oneself *be centered* in this process—that is, stripped of ego so as to access that true center by which we exchange “willed creation” for the “willed passion” that comprises generative making.⁴⁰⁵ “The ancients described such an activity as ‘participation,’” writes Keith Critchlow. “The higher the goal the deeper the understanding.”⁴⁰⁶ “He who sees the Ratio only sees himself,” writes Blake, whereas “he who sees the Infinite”—or the life and dynamism in

⁴⁰⁴ Stein, quoted by Quillien (2007), 15–16.

⁴⁰⁵ Passion here pertaining not to irrational action but to waiting. “Inactivity constitutes the *human*. The inactivity involved in doing is what makes the doing something genuinely human. Without moments of pause or hesitation, acting deteriorates into blind action and reaction. Without calm, a new barbarism emerges.” Han (2024), 2.

⁴⁰⁶ Critchlow (2011), 192.

each center—“in all things sees God.”⁴⁰⁷ In other words, *finesse* determines *geometry*; there is no mechanism within Alexander’s creative process.

However, who is to say our creative endeavour to reveal new form on a canvas, or in a house, is not simply the following of a *natural* process? Perhaps what we call *finesse* is a determined, and therefore mechanical, response to a strong center, analogous to the rays that geometrically unfold from the milk drop (so that an assertion of ego, as opposed to a surrender of it, is the freedom that surpasses finitude). Does the strong center—which organizes or *determines* other centers around it—offer us a mere mechanical explanation for the dynamic event of “wholeness”? Again, such questions capture us within Cartesian presuppositions, assuming an ontological divorce between mind and world. Centers (whether a painting, or the formal coherence of a milk drop) obey an immaterial unity; physics can explain the mechanics but cannot explain the *telos*—the absent-present center⁴⁰⁸—which organizes mechanism. We will, however, explore *telos* further in our next chapter.

6.2.3 BOUNDARIES

A boundary delimits but also unites a center. It both closes a center as a substantial unity and mediates and connects it to a surrounding environment. “Early in my studies,” writes Alexander, “I noticed that living centers are often—nearly always—formed and

⁴⁰⁷ Blake (2008), 3.

⁴⁰⁸ By the phrase an “absent presence” an illogical contradiction is not meant but the paradox of a replete divine presence, on the analogy of daylight being not what we see but that which everywhere enables seeing.

strengthened by boundaries.”⁴⁰⁹ For it to both unite and separate, “the boundary must at the same time be distinct from the center being bounded, must keep this center distinct and separate from the world beyond it, and yet also have the capacity of uniting that center with the world beyond the boundary.... In both ways, the center that is bounded becomes more intense.”⁴¹⁰ Included in the photos below is one of a Norwegian storehouse displaying strong boundaries that both separate and unite it with its environment alongside another of a condominium whose weak boundaries, amongst other deficiencies, fail to differentiate it and so integrate it into the environment.

Boundaries “surround,” “enclose,” “separate,” and “connect” in “various different geometric ways,” yet in order “to make the boundary work in *any* of these ways,” it must be on the same order of magnitude as the center being bound.⁴¹¹ A two- to six-inch molding, for instance, will mark a boundary between floor and walls much less sufficiently than wainscoting.⁴¹² “An effective boundary for the river Seine consists of roads, walls, paths, quays, trees, something almost as massive as the river itself.”⁴¹³ Likewise, the lips “as the boundary of the mouth are similar in size to the mouth.”⁴¹⁴ “The life of almost every center is caused by the fact that the center itself, and its subsidiary centers, too, all have strongly marked boundaries.”⁴¹⁵

⁴⁰⁹ *TNO* 1:159.

⁴¹⁰ *TNO* 1:158.

⁴¹¹ *TNO* 1:158.

⁴¹² *TNO* 1:158.

⁴¹³ *TNO* 1:158.

⁴¹⁴ *TNO* 1:159.

⁴¹⁵ *TNO* 1:161.

Alongside size, boundaries are also themselves *formed of centers* and unite “the thing bounded with the world beyond.”⁴¹⁶ “Essentially they form centers, or systems of alternating centers, which look both ways: they face in and they face out; they create connections to the inside of the boundary, and connections to the outside, by establishing new centers that span the two.”⁴¹⁷ This can occur through “interlock” (in which a border “hooks” itself to an adjacent center, making separation “ambiguous”),⁴¹⁸ or in the motif of a “running vine” or some other alternating effect that relates to one side of the boundary and then the other; or at times the boundary may be composed of something basic, say a collection of tiles with a flower design that “has no special interlock but [instead] a feeling of similarity with what is on either side in terms of shape and color.”⁴¹⁹

One notes, too, that boundaries often have boundaries: a boundary is a thing in its own right (which is to say, a center); to be well established, it requires a boundary. To illustrate, Alexander points to the castle of Gwalior (see photo below), composed of boundaries of boundaries, or (also below) a Persian manuscript. In each, every center appears as itself a boundary to another center, recursively throughout the structure—this, to the extent that what seems a simple rule (i.e., all centers require boundaries) becomes a characteristic of “enormous structural depth, which is in effect applied dozens or hundreds of times, at different scales throughout a thing.”⁴²⁰ Nor does this change when considering natural forms, where boundaries are formed as “functional separations and

⁴¹⁶ *TNO* 1:161.

⁴¹⁷ *TNO* 1:161.

⁴¹⁸ “Deep interlock and ambiguity” (another one of the fifteen) will be discussed below.

⁴¹⁹ *TNO* 1:161.

⁴²⁰ *TNO* 1:161.

transitions between different systems.”⁴²¹ For instance, in an organic cell (below), the wall is nearly as thick as the cell’s interior, and every boundary is a center with another boundary that is a center, and so on.

This property plunges us deep into something mysterious; relationality is mysterious, we say, for the imperceptible links which draw friends, lovers, neighbours, and families together. Yet even on the perceptible plain, boundaries are elusive and ambiguous—which does not mean *obscure*, for all unities that relate us also simultaneously establish that coherency of identity that separates us. What gives each thing to itself is not itself, in other words, but a relationship that endows it with coherence. But in spite of this perceptible relationality between centers, an imperceptible *whole* remains present, for an infinite series of boundaries and centers will not exhaust the cosmic design, nor will a final, finite boundary be discovered at its edges. What we see, rather, is that every effective boundary has both a finitude and an infinitude, a spatial dimension as well as an eternal one: each boundary relates us to the visible center (which it connects and separates) and also relates itself to the unbounded whole which each boundary suggests and in some manner points us toward.⁴²² All beauty is an edge that expresses this mystical boundary. In expressing this analogical-trinitarian shape in the theme of boundaries (a kenotic movement of identity-giving unity), Alexander offers us another window into the consonant sophianic tensions and rhythms of being—a view

⁴²¹ TNO 1:254.

⁴²² In the sense of the Neoplatonic *symbolon*, every boundary is an icon that expresses the unbounded, or One, not in spite of its boundedness but *in its boundedness*, identity, or oneness. However, lent a trinitarian emphasis—not a oneness but a three-in-one-ness—every boundary is an icon which combines a horizontal and vertical dimension, an identity that supposes its source in a *relational* unity.

(beyond the mechanical) onto an iconostasis binding together space, time, and eternity in the undergirding wisdom at root in every form.⁴²³

6.2.4 ALTERNATING REPETITION

“One of the ways that centers help each other most effectively is by their repetition.”⁴²⁴

Alexander compares this alternating repetition in aesthetics to the beat of a drum, one whose rhythm “of the repeating center” slowly “intensifies the field effect.”⁴²⁵ This, however, does not amount to a simple repetition, but implies, too, a relationship to another pattern of repetition that helps to form it, much in the harmonious way in which centers formally relate to boundaries.

It is a fact about the world that things repeat. Most things are made from repetition at some level: repetition of atoms, crystals, molecules, waves, cells, volumes, roofs, trusses, windows, bricks, columns, tiles, entrances, and so on. But the repetition which occurs in things which have life is a very special kind of repetition. It is a kind where the rhythm of the centers that repeat is underlined, and intensified, by an alternating rhythm interlocked with the first and where a second system of centers also repeats, in parallel. The second system of centers then intensifies the first system, by providing a kind of counterpoint, or opposing beat.⁴²⁶

⁴²³ Florensky (1996), 161.

⁴²⁴ *TNO* 1:165.

⁴²⁵ *TNO* 1:165.

⁴²⁶ *TNO* 1:166.

Importantly, repetition is not to be identical and banal, as in the façade of the building (see photo below) whose centers invoke the opposite effect of life—a sort of “bad infinity” of endless boredom (and scarcity) rather than a meaningful, life-giving infinity of plenitude in expression. The deadness of the repetition is not saved but rather further stressed by the (dead) secondary centers between the (dead) primary centers—the former which offer “no alternation to speak of, no living centers which repeat.”⁴²⁷ This nonidentical repetition that is sought is not meted out by the singular, Promethean creativity of the artist—for ego would be all that was repeated here—but by the artist *finding* the correct modification for each repetition in the pattern *according to* its position in the whole.⁴²⁸ Alexander illustrates this contemplatively ordered repetition in the Greek embroidery pictured below. “The entire surface becomes whole, from the flickering alternation of the shapes and spaces, all repeating, all alternating. Both primary and secondary centers in the repetition are alive. That is what causes the alternation, and what engages the eye continuously.”⁴²⁹ Other examples include the simplicity of a woven basket, a field-stone wall, as well as the inlets that gently alternate with the mountains along a shore (see below).

In natural forms, Alexander notes this property of an alternation between a primary and secondary property:

⁴²⁷ TNO 1:169.

⁴²⁸ TNO 1:169.

⁴²⁹ TNO 1:169.

When atoms repeat, so do the spaces which contain the electron orbits; when waves repeat, so do the troughs between the waves; as mountains repeat, so do the valleys; when the trees in a forest repeat, so do the open patches of undergrowth where more light falls; when leaves repeat, so do the spaces between the leaves that allow the sun to reach the leaves; when cracks in mud repeat, so do the coherent and harder units of the uncracked mud between them; when petals in a flower repeat, so do the sepals which lie behind the petals and overlap them; when the flowers on a bush repeat, so does the space between flowers; when the tiger's stripes repeat, so do the lighter stripes between them.⁴³⁰

However, he asks, are these instances merely logically tautologous, “as if the second repeating structure cannot help being there”?⁴³¹ A shadow is there, yes, but we ought not to assert any structural capacity to it. “But that is not so,” Alexander responds. “In all these cases, the significant issue is the coherence of the secondary centers.” In the mackerel formation in clouds, for instance, the space between white “scales” is not a vacancy but itself a necessary part of the system of vapour nucleation.⁴³² (“The space loses its vapor as the denser droplets form in the adjacent zone.”)⁴³³ In other words, the secondary centers are not mere leftovers; they each have “their own laws, their own defining processes and

⁴³⁰ *TNO* 1:258.

⁴³¹ *TNO* 1:260.

⁴³² *TNO* 1:260.

⁴³³ *TNO* 1:260.

stability,” and their own levels of scale are of a magnitude with the primary repeating units.⁴³⁴

Alternating repetition is, therefore, a relational property which helps the integral life of centers. “We see the appearance of this phenomenon,” says Alexander, “in a plethora of forms throughout nature. In particular cases, its occurrence is certainly not a mystery. Yet no simple theory that I know of explains or predicts its pervasiveness.”⁴³⁵

We might gloss this logically explicable (in its mechanics) but mysteriously unpredictable property with philosophical notions given to liturgical patterns in the work of Charles Peguy. For Peguy, for instance, in Christ’s acts all potencies are communicated, so that each saint manifests an aspect of Christ latently present in his life and acts. Each saint is a nonidentical repetition—each is his or her own—yet each reveals more about the original, Christ himself. Every saint, in other words, is a further revelation of God’s original revelation in Christ. “Another example” writes Conor Cunningham, drawing on Peguy, “would be a waterlily painted by Claude Monet. For Peguy, the first painting executed by Monet of his famous waterlilies repeats all subsequent paintings. These later paintings in some sense intensify the originary repetition of the first: ‘Everything which is beginning has virtue which can never be rediscovered, a strength, a novelty, freshness like dawn.... The first day is the most beautiful. Perhaps the first day is the only beautiful day.’”⁴³⁶ This is

⁴³⁴ TNO 1:260.

⁴³⁵ TNO 1:260.

⁴³⁶ Peguy, quoted in Cunningham (2002), 202. Cunningham also notes “that this does not mean that a second painting is *simply* not as good as the first” but that if the second is better, as can often be the case, it “is better *because* of the first, so in this sense is less.” Mere cumulation does not intensify a repetition; it requires, instead, a “lived realisation of the beginning.” This may also be put as the logic of the gift in which the “primal event” is an “eruption of eternity into [time],” an “infinitely gratuitous gift that can never be reciprocated” in that its equality (its fertility or perfection) is beyond measure. Maguire (2019), 19.

what it means to say that liturgical events *participate* rather than memorialize what they remember (*anamnesis*).⁴³⁷ Discontinuity (as opposed to disruption) is never completely alien to the site of its emergence; it rests and is dynamically present in the immaterial ideal of every coherency or form. Alternation allows us the further acknowledgement, however, that these repetitions do not repeat in a vacuum but are themselves shaped from further nonidentical repetitions in the environment. To continue with our liturgical illustration, which strikes more of a temporal than a visual chord (though Alexander himself compares repetition to a “drum beat”),⁴³⁸ we may say that the sacred or liturgical dovetails or interlocks, or even falls into a salubrious ambiguity, with the profane. Indeed, where the sacred does not connect with the profane, nor vice versa, both lose their integrity and become vacant rituals adhered to by rote rather than by worship (i.e., differentiation fails because unity is not realized). Alternating repetition, therefore, expresses relation (i.e., sophianic) not only within its own pattern but with a further third (fourth, fifth, etc.) pattern of boundary-forming repetition. In such a way, Alexander states, “it seems that what is really happening is not repetition, but oscillation. The thing repeats like a wave.”⁴³⁹

“Whenever centers repeat within a structure, they will generally unite to intensify a larger center only when a second system of centers is inserted between them forming a second alternating system, sometimes even creating a third system of centers mutually caused by the first two, which once again ripple and alternate and oscillate.”⁴⁴⁰

⁴³⁷ Huizinga (2001), 20ff.

⁴³⁸ *TNO* 1:165.

⁴³⁹ *TNO* 1:171.

⁴⁴⁰ *TNO* 1:171.

A repetition only has *life* where others have it too: livingness reverberates through the fabric of the whole in a subtle melody to which every repetition contributes rhythm. This, however, is even more pronounced if we see that (nonidentical) repetition is not merely a pattern over against other patterns, but characteristic of any thing qua *thing*. As Catherine Pickstock notes, *res* (thing), considered a transcendental to most Scholastics, may be “a more fundamental term than *ens*,” as that “linking term” which connects *ens* (being) to *essentia* (nature).⁴⁴¹ That a finite thing’s nature (essence) is *not* its being (over against God whose nature *is* being) is not a privative effect, some fall in scale from God’s greater nature, but the condition for which we are granted his likeness.⁴⁴² Thus our thinghood, that which manifests our “unique specificity,” supposes a participation in God’s ultimate thinghood (*ens realissimum*).⁴⁴³ We are not things by default, but things by design. There could be no difference without thingness, no love which supposes difference, no particularity—*nihil*. To aesthetically capture repetition as a living quality is to give an iconographic face to the individual particulars, as well as to the relationships their differences augur. Differentiation is unity out ahead of us; it is the beacon of eternal unity, the manifestation of prior love.⁴⁴⁴ To bear out the thingness of things alongside their inexorable unity in relation—whether in the weave of a rug, in music, or in ritual—brings into perception the most primal thread in being’s tapestry.

⁴⁴¹ Pickstock (2013), 10.

⁴⁴² Because God is not predicable, and beyond genus, God’s “existence... is His essence,” as states Aquinas. ST1.3.5.

⁴⁴³ Pickstock (2013), 10.

⁴⁴⁴ “True union does not fuse elements it brings together, [but] by mutual fertilization and adaptation it gives them a renewal of vitality.... *Union differentiates*.” Teilhard de Chardin (1969), 63.

6.2.5 POSITIVE SPACE

“What I call positive space occurs when every bit of space swells outward, is substantial in itself, is never the leftover from an adjacent shape. We may see it like ripening corn, each kernel swelling until it meets the others, each one having its own positive shape caused by its growth as a cell from the inside.”⁴⁴⁵ Again, as in the mackerel sky example, we are speaking of space or spaces within a structure that are not arbitrary, or merely “empty” (i.e., negative space) but a part of the continuum of life in a thing—subtle centers of their own yet “fundamental to its wholeness.”⁴⁴⁶ There is an “outward manifestation of internal coherence”⁴⁴⁷ that we observe, as in the example below of soap bubbles (to take an instance of natural form). As they cluster, the bubble walls flatten as they press up against one another, finding an equilibrium. Had they stiffly maintained sphericity (an analogical ego), they would destroy themselves against one another. But each bubble delimits while it makes way for another and in such a way produces positive space throughout in which nothing is forced or disrupted; the event unfolds as equilibrium is sought through the natural form itself. In other words, positive space is a part of the governance of a thing’s unfolding: If leaves had no positive space to allow each to face the sun’s light, none would grow; each is granted the space it needs as a formal quality of the tree itself.

Likewise, in design, positive space is not merely ornamental (i.e., form without function) but serves a function that is formal to the unfolding idea. This does not come from an imposing function that asserts itself over against the whole but from the *care* in

⁴⁴⁵ *TNO* 1:173.

⁴⁴⁶ *TNO* 1:173.

⁴⁴⁷ *TNO* 1:262.

which a people or community over time find their own formal needs met in the potencies of a city, village, building, or space. Alexander shows us the Nolli plan of Rome (below) with its “hundreds of positive spaces.”

There is virtually no part of the whole which does not have definite and positive shape. It is a packing of definite entities, each of which is definite and substantial in its own right. This has come about, I think, because each of these places—whether street, square, or block of buildings—has been shaped over time by people who cared about it, and it has therefore taken a definite, cared-for shape with meaning and purpose. Each of these entities has been formed by the slow deliberate strengthening of centers.⁴⁴⁸

Beauty occurs when a whole or form is not imposed upon, when each center has its place in relation to each adjacent or interlocking center, when there is no disruption or, as Alexander says, “leftovers.”⁴⁴⁹ A leftover, by creating a negative space in the fabric of the whole—“amorphous [and] meaningless”⁴⁵⁰—disrupts the whole; it betrays the event of its structure; it thwarts nature in her ability to nature.

These unfortunate instances occur not only when we leave an “empty” or “leftover” space but when, indeed, our mindset is such that we see space as always already empty and meaningless. Modern buildings are built as though they float “in empty space, as if the

⁴⁴⁸ *TNO* 1:176.

⁴⁴⁹ *TNO* 1:176.

⁴⁵⁰ *TNO* 1:176.

space between them were an empty sea.”⁴⁵¹ On this metaphor, we bring more emphasis to the entity of positive space when we acknowledge that we are not only speaking about it as a structural component we subtly perceive—until, say, we flip over a woven rug—but, in the case of architecture and the built environment, as the *space* in which we *move*.⁴⁵² The quaint and living feel of a Granadan laneway, for instance, is not a contingency or super-addition of the street and its planning; it is, on the contrary, the way in which Granada as an organic whole emerges, and thus the only possible way in which we could access, and thus experience, just such a place. Space shapes our movements through the world, whether it is down an ancient Spanish side road or along the strictly functionalist six-lane broad streets of a car-centric Miami or Los Angeles. The built environment is not comprised only of buildings but, just as fundamentally, of the spaces they shape. In the functionalist-mechanist System-B approach, space is dead so that nothing ever formally comes to life; both the human and environment are stunted. In the System-A approach, life leaves no leftovers; space is not empty—everything, rightly ordered, serves form. Positive space demonstrates that wisdom is ontologically present in all quarters, charging even the ostensibly empty spaces between us with relational significance.

⁴⁵¹ TNO 1:174.

⁴⁵² To flip over a woven rug is to see the colours, and thus the spaces between patterns, starkly inverted and expressing a new pattern, or one taken for granted as inherent in the structure of a rug’s wholeness.

6.2.6 GOOD SHAPE

At first, for Alexander, the most “gorgeous and powerful shapes” seem to defy analysis, but he gradually develops an understanding of why “good shape” occurs in living centers.⁴⁵³ A good shape is composed of (or stands in relation to) “multiple coherent centers”⁴⁵⁴ which all comprise a “recursive rule” in which, simply, good, elementary shapes will form together to create a complexity that itself expresses further good shape, as for instance in the Turkish velvet, or in the carved Romanian column (below). This effect can be easily explained by the teapot stand and the futuristic chair (also below); the latter, when broken down, consists of bad amorphous shapes, rather than “elementary,” or simple, geometric shapes (as in the former). In geometric shape “there is usually a high degree of internal symmetry, a well-marked center, and positive space next to it.”⁴⁵⁵

On one level, good shape is a summary of what results when those properties we have discussed so far (as well as those to come) are ordered well. However, Alexander’s gradual understanding of good shape also lends us insight into the creative techniques by which traditional good shape comes to be—that is, in simple, local geometric shapes. “In my experience, in the build-up of a good shape the following elements are the most common: square, line segment, arrowhead, hook, triangle, row of dots, circle, rosette, diamond, S-shape, half circle, star, steps, cross, waves, spiral, tree, octagon.”⁴⁵⁶ See, for instance, the early Persian carpet whose “flower petals are made of elements that are

⁴⁵³ *TNO* 1:179.

⁴⁵⁴ *TNO* 1:179.

⁴⁵⁵ Quillien (2007), 22.

⁴⁵⁶ *TNO* 1:183.

essentially straight line figures, squares, and triangles, [with] both the colored pieces and the triangles, hexagons, etc., put together in very complex way to create the illusion of organic shapes.”⁴⁵⁷ In other words, organic appearances are produced (perhaps beyond “illusion”) when simplicity is courted—that is, shapes with clear centers that are centers themselves rather than what we associate with free and “loose organic kinds.”⁴⁵⁸

Interestingly, we may note that among these simple shapes, Alexander does not mention *circles*. But this follows from a relational, or sophianic, explanation, in that a circle—while in itself a unity and therefore sophiologically symbolic—is not itself well-disposed to relation outside itself. While a soap bubble (as in our last property) lends itself to its neighbour by flattening its walls, an unadulterated circle does not lend itself well to positive space, nor to interlock. This is not to say that only straight lines produce life, as this is clearly not true when we look again at the Persian rug, where “squares,” “triangles,” and “hexagons” express curved edges to produce an integrated and orderly effect. The curved line which marks their imperfection—as opposed to their noumenal ideal—perfects them: in these cases, it crowns upon them a relationship, a more potent symbolism (than the unity of the circle), for it symbolizes what is ontologically true. The curved edge is a symbol of what it already is: the allowance, give, humility, or play which marks the trinitarian life in which life—to be life—always participates.

⁴⁵⁷ *TNO* 1:182.

⁴⁵⁸ *TNO* 1:182.

6.2.7 LOCAL SYMMETRIES

Symmetry can both increase life or spell death in the realm of physical beauty. In natural forms, we see very often that symmetry is the rule, that asymmetry occurs only when forced: a bubble, a raindrop, a leaf are all, if unobstructed, symmetrical. “Trees are symmetrical around their trunks, crystals are symmetrical, the human body is symmetrical in its major bilateral symmetry and in many of its individual parts (a finger around its length, an eye, a fingernail, a woman’s breast, a knee).”⁴⁵⁹ This, Alexander states, corresponds to the “existence of minimum energy and least-action principles,” as for instance the symmetrical sphere of a bubble which provides a shape that “minimizes the potential energy due to surface tension,” or in a crystal “because the continuous aggregation of equal particles usually leads to an array which, for geometric reasons, has global symmetry.”⁴⁶⁰

But symmetry requires “symmetry breaking,” or none but one symmetry would ever come to be: *tohu ba vohu*, as it were, the void of an infinite identity, an ocean of water without a wave, the pure symmetry of the *nihil*. But each day in the hexameral pattern adds another singularity through which life increases. Symmetries thus increase where singularities occur. Natural forms may be full of symmetry, but were a mountain merely a right-angle triangle, perfectly flat on every side, there wouldn’t be much to say about it.⁴⁶¹

Wind, storms, age, erosion, contribute to a mountain’s beauty, albeit not by virtue of

⁴⁵⁹ TNO 1:186.

⁴⁶⁰ TNO 1:186.

⁴⁶¹ Peter Kosso states, “It is symmetry breaking, not symmetry, that warrants an explanation. Weyl makes a similar point in discussing the spherical Earth: ‘The feature that needs explanation is, therefore, not the rotational symmetry of its shape but the deviations from this symmetry as exhibited by the irregular distribution of land and water and by the minute crinkles of mountains on its surface.’ Kosso (2002), 421.

merely breaking its symmetry, but—in virtue of breaking it—also creating more opportunities for *local* symmetries to occur.

This property is a particularly important item in Alexander’s research—one that has inspired further research by academics in the field of mathematics and architecture.⁴⁶² On the theme, Alexander’s thesis is simply the following: large overall symmetries do not add coherence or life (indeed, they diagnose an incoherence).⁴⁶³ Life, rather, depends on smaller, local symmetries in an ultimately asymmetrical whole. The illustrations below make this evident. On the one hand, the plan of the Alhambra (below) shows us smaller symmetries at many levels. “There are courtyards which are internally symmetrical, rooms which are symmetrical, pieces of wall, windows, columns, which are symmetrical—the plan is a maze of intricate and subtle smaller symmetries, symmetries of segments or subsymmetries.”⁴⁶⁴ None of these local symmetries, importantly, are at any point governed by an overall symmetry, as we might see, for instance, in the neoclassicist style of the Zeppelinfeld or the “similarly rigid and exaggerated symmetry”⁴⁶⁵ of the Renaissance Center in Detroit (both below). In these latter two buildings, the symmetries are “crude and

⁴⁶² The theme provoked a four-year study, undertaken by Alexander, in which participants were offered “strips” with varying black and white bars on them to determine the memorability, and therefore coherency, of each strip. See *TNO* 1:188–91. See also Mehaffy (2020), 10, 249; and Salingaros (2020).

⁴⁶³ As Peter Kosso argues, there is a permutation invariance in the purely symmetrical that results from a lack of order: the extreme symmetry of water allows this drop or that drop to go anywhere without change to the overall symmetry. To break symmetry is to thus increase order, to manifest intention and purpose in the design. “A system that experiences no changes whatsoever under any and all transformations has no discernible structure. It is the anti-thesis of a well-ordered system. In fact, it is the least ordered systems in nature that are the most symmetric, since a truly random arrangement [like water in a pond] transformed in any way is still a random arrangement. It is well known that by increasing the order in a system, one actually decreases symmetry.” Kosso (2002), 420. On pure symmetry as an invariant homogeneity, Coleridge makes the point that chaos is “one vast homogenous drop” in his criticism of Milton who depicts hell as “a chaos of heterogenous substances.” Coleridge (1848), 48.

⁴⁶⁴ *TNO* 1:186.

⁴⁶⁵ *TNO* 1:186.

totalitarian.”⁴⁶⁶ Everything internal is authored by the external edges of the structure. While there is something mechanical (read, determined) at work in these designs, it is not necessarily from this *ethos* nor from a functionalist one that they arise; they seem more the product of a misunderstood, or Promethean, aesthetics—a plainly theoretical understanding of symmetry out of touch with the way in which it conducts life. It is a failure to see symmetry as meontic—an empty but fertile womb—whose dramatic potency is the emergence of the asymmetrical. And given the Zeppelinfeld—and, say, the crowds of Nazi soldiers who once filled it (in a massive, impersonal, symmetrical parade) with their ostensibly symmetrical Aryan faces, all gathered around a failed student of art and aesthetics who had rallied a rich national peasant tradition toward a single brutal message (“blood and soil”)—the aesthetics of a large totalitarian symmetry can rightly be deemed an aesthetics that reaches back to the void, not to the fertile *tohu ba vohu* but to the *auk on* of godless emptiness, in which reverence for symmetry becomes no less than an idolization of evil. Beauty thus begins where symmetry is broken and brought into mixture with the asymmetrical.

“The real binding force which symmetry contributes to the formation of life is not in the overall symmetry of a building, but in the binding together and local symmetry of smaller centers within the whole,”⁴⁶⁷ each of which makes of symmetry a “glue” which adheres together in a coherent, ultimately asymmetrical whole. The external edges of the Alhambra do not determine its internal symmetries, because these internal (or local)

⁴⁶⁶ TNO 1:186.

⁴⁶⁷ TNO 1:188.

symmetries are “bent by [their] own laws,”⁴⁶⁸ responsive to “the local needs of each space.”⁴⁶⁹ What, again, governs living structure is the contemplative practice of generative building—the delicate empiricism undertaken by human beings dwelling over time in a place. However, we ought not to look at these local symmetries as isolated, seated in a sea of empty space, each a unit unto themselves. Their adjacency is not random but, very importantly, *overlaps*.

Why does the presence of many local symmetries in the design make it coherent and memorable? It is as if the symmetrical segments act as a kind of glue—the glue which holds the space together. The more glue there is, the more the space is one, solid, unified, coherent. And notice one more detail: for the glue to be effective, it seems that many of the symmetrical segments must overlap. They are by no means discrete or disjoint. One symmetrical segment overlaps another—and it is not only the number of symmetrical segments, but also their continuous overlapping which makes the glue that makes the design “whole.”⁴⁷⁰

“The subsymmetries are not distinct,” he continues, “but overlap in any one pattern.”⁴⁷¹

Look, for instance, at *The Book of Kells*, where the pattern expresses various levels of overlapping local symmetries, not unlike (to add my own examples) Kandinsky’s *On White*

⁴⁶⁸ TNO 1:194.

⁴⁶⁹ TNO 1:188.

⁴⁷⁰ TNO 1:192.

⁴⁷¹ TNO 1:192.

II or *Composition 8*. It is not a deconstructionist chaos that pleases us in these instances but a deep, structural order in which interrelation is the governing principle—a harmony which remains supple.

“When in doubt,” says Alexander, “make it symmetrical.”⁴⁷² Centers fail to produce good shape in those instances, say, of futuristic chairs (see below), whose intention of play falls flat for their revolt against the simple and elementary. Play comes to shapes which follow certain geometrical rules and in which the external, asymmetrical edges delight. To put it another way, the impulse toward asymmetry *without* the symmetrical base (without the fertility of watery void within the mixture) seeks dynamism where none can be found, for potency (*dynamis*) cannot be found apart from natural forms. It is an attempt to produce the *natura naturans* without the *natura naturata*—the Promethean impulse of the opposite extreme or modernity poured out into its Janus-face, postmodernism.

It is important here to contrast (or complement) the theme of interrelationality in symmetry to the mathematical treatment that symmetry often receives (as in, for instance, the putative “golden ratio” as determinative of beauty).⁴⁷³ “Life, as I have defined it, is mathematical,” states Alexander, an assertion that certain scholars have fruitfully pursued—most notably, Michael Mehaffy, Nikos Salingaros and Bin Jiang—each of whom have sought rigorous mathematical bases for the fifteen properties and (in the case of Mehaffy) even seen each of the properties as an expression of various kinds of

⁴⁷² *TNO* 1:194.

⁴⁷³ This is not to decry the event of the golden ratio as such, that mysterious irrational number (appearing only in its rational approximates) found at every scale of nature from the galactic down to the atomic. See, for instance, Marples and Williams (2022), 2059.

symmetries.⁴⁷⁴ However, other scholars—as for instance David Week and David Seamon—have attempted to redirect the fifteen properties away from objective measures and toward the subjective corridors of the phenomenological life-world in the belief that beauty and geometry share none but a contingent, subjectivist language.⁴⁷⁵ It is important to state that Alexander does not propose an *exhaustive* mathematical basis through which living structure is generated. A generative structure that takes time and egoless care to produce would be, if there were mathematical formulas that could do it for us, absurd and needlessly heroic. *Mystique* remains a center of the process; indeed, the symmetry we most mysteriously invoke is that between the self and the world (not a “mirror” symmetry but a correspondence better described perhaps as a “translation” of the self, or a “*convenencia*” with the self).⁴⁷⁶ By claiming that “life is mathematical,” Alexander means simply that life arises “because of the mathematics of space itself,”⁴⁷⁷ a point that is hard to argue with unless we wish to contend that beauty does not manifest in physical spaces with tangible proportions. Each of the fifteen properties asserts a geometric principle, or law, an *action upon or within space*, that enables beauty to appear. If “living centers arise primarily as symmetries and structures of symmetries, their presence and their density can, in principle, be calculated for any configuration.”⁴⁷⁸ Such a statement, however, is no more controversial than the suggestion that the critique of a poem helps explain the

⁴⁷⁴ “Levels of Scale (scaling symmetries) 2. Strong Centers (rotational, reflectional symmetries) 3. Boundaries (rotational, reflectional symmetries) 4. Alternating Repetition (compound symmetries) [etc.].” See Mehaffy (2020), 12. See also Salingaros (2014); Salingaros (1997), 165–73; Jiang (2016), 463; Jiang and Yin (2014), 104.

⁴⁷⁵ This theme will be expounded upon in ch. 8. See Seamon (2016) and Week (2016).

⁴⁷⁶ Mehaffy notes symmetry’s broader scope beyond mirror symmetry. See Mehaffy (2020), 2.

⁴⁷⁷ *TNO* 1:469.

⁴⁷⁸ *TNO* 1:469.

effects of the poem—but does not *reproduce* the poem. A mathematical El Dorado, as it were, has not been discovered, for the simple reason that relationality bespeaks an *irreducibility* that must be *discerned*. We can calculate the effects of a good poem to certain of its properties (rhyme, meter, genre, themes), but this does not in turn grant us the means to write good poems. Likewise, the measure of life from a “Thermodynamic Analogy” (Salingaros), or from certain fractal theories that indicate consistencies in the recursive symmetries of different living structures (Jiang), may assist our efforts but ultimately do not accomplish life in structure insofar as, to quote Jiang, the “philosophical and visionary part of living structure is metaphysical, and remains highly mysterious, and probably can never be verified.”⁴⁷⁹

But let us, however, remember why (much more than “probably”) it will never be verified. What, in other words, does a human being discern in beauty that is beyond an A.I. computer’s abilities to calculate? No less than the ipseity, or in-itself-ness of things, which, importantly, does not equate to a *by-itself-ness*. It is the “kingdom of ends” (to invoke Kant’s phrase, if not his metaphysics) in which beauty reveals the deepest identity of each thing as gifted, as overdetermined, as an “ontological surprise”⁴⁸⁰ whose being cannot explain itself; logically, this defers us to a necessary being beyond all contingency, but on the level of phenomenological experience, it bears upon us the sudden presence of an eternal word, life itself. In other words, where I recognize beauty, I recognize identity, the I meets the I, or the self the Self, a relational symmetry that is, *qua* relational,

⁴⁷⁹ Jiang (2019), 15. See also Jiang (2016). Salingaros’s paper is also taken up by Alexander. See *TNO* 1, 469–72.

⁴⁸⁰ Hart (2013), ch. 5.

irreducible and therefore, as Catherine Pickstock notes, participatory: “If one were to regard this integrity of things as irreducible (and modern thought usually does not), then it can only be ascribed to a participation in the creative action of God, allowing to things a share in his plenitude of formed existence as a kind of grace of coherent beauty to be accounted for in its own terms.”⁴⁸¹

But let us not, here, make Alexander’s purpose one which attempts to protect this irreducible mystery, precious to the sensibility of the artist, from the imposition of mathematics—for if mind and world have an ontological relation, then geometry is not a language foreign to the self but among the measures which “sundrie waies of wisdom”⁴⁸² offer up for our deployment as we discern the interrelations that increase life in a structure. The aspiring poet who lacks an intuitive or explicit grasp on poetry’s properties will probably not yet be able to achieve good poetry. Similarly, the architect or painter who lacks or eschews geometry, will have eschewed from her craft a piece of herself.

Can we quantitatively capture these geometric properties? Yes, insofar as we first recognize that it is by *qualia* that we measure and gain them. Mathematics can capture certain generalities in pattern—dimensions and densities of recursion or the ratios of symmetry, for instance—but to *lead* by mathematics will always be a quixotic endeavour that forgets that geometry in the generation of beauty is bent by the laws of human needs, both quotidian and transcendent.

⁴⁸¹ Pickstock (2013), 12.

⁴⁸² To quote Richard Hooker’s famous phrase.

6.2.8 DEEP INTERLOCK AND AMBIGUITY

The relational nature of “deep interlock and ambiguity” is rather self-evident, and we have already mentioned this property in the course of explaining others above. What distinguishes interlock from *deep* interlock is that the latter supposes an ambiguity between two centers that nevertheless *strengthens* those centers. In this light, the property does not really name two things (i.e., deep interlock *and* ambiguity) but what single effect successful interpenetration of enmeshing centers produces. A good interlock is, thus, ambiguous, creating an “indissoluble knot.”⁴⁸³ Look, for instance, at the houses, arcades, and galleries (below), an example that one might argue resists ambiguity for all the hard, straight lines that separate the different entities—boulevard, sidewalk, street, homes. Yet the center (the space outside the building) is enmeshed with the outdoors: “The space outside the building reaches in and grips the building anywhere where it is surrounded by a gallery or an arcade. The space in the gallery belongs to the outside world, and yet simultaneously belongs to the building—thus causing a fusion of the two.”⁴⁸⁴ “The interlock, or ambiguity, strengthens the centers on either side, and they get their strength from the strength of the center in the middle.”⁴⁸⁵ Clearer examples (below) are found in the Shang bronze, the tile work of the Tabriz Mosque or Pierre Bonnard’s *The Yellow Mimosa*. “The use of interlock goes on. It has no time and no place.”⁴⁸⁶

⁴⁸³ TNO 1:197.

⁴⁸⁴ TNO 1:197.

⁴⁸⁵ TNO 1:197.

⁴⁸⁶ TNO 1:197.

In natural forms, deep interlock and ambiguity appear in, for instance, the cerebellum, where the tissue is “crinkled deeply” to enable the “maximum number of connections,” or in the “magnetic domain pattern in ferromagnetic metal crystals,”⁴⁸⁷ or even more simply in the pattern of a giraffe’s coat (below). Interestingly, the molecule is given its structure “by the overlap of the electrons in the outer electron shells of the component atoms,” in which “the deeper the interpenetration and overlap, the more stable the molecule.”⁴⁸⁸

6.2.9 CONTRAST

Nothing can be differentiated that does not stand out from another, and yet “contrast” unifies rather than separates. “Every center,” Alexander writes, “is made from discernible opposites, and intensified when the not-center, against which it is opposed, is clarified, and itself becomes a center.”⁴⁸⁹ These opposites “take many forms” but reveal contrast in every case: “black-white,” “dark-light,” “empty-full,” “solid-void,” “busy-silent,” “red-green,” “blue-yellow,” etc.⁴⁹⁰ However, as in the case we’ve been building up so far around the theme of (inter)relationality, a unitive dimension ultimately exceeds these opposite parts. As in the “awareness of silence created by a hand-clap[,]... the difference between opposites gives birth to *something*.”⁴⁹¹ On the *coincidentia oppositorum*, Iain McGilchrist writes,

⁴⁸⁷ TNO 1:197, 270.

⁴⁸⁸ TNO 1:197.

⁴⁸⁹ TNO 1:197, 200.

⁴⁹⁰ TNO 1:200.

⁴⁹¹ TNO 1:197.

It is the tension between the warring ends of the bow that gives the arrow the power to fly, as it is the tension in the strings of the lyre that gives rise to the melody: this is what [Heraclitus] meant by his saying, “war is the father of all things.” What looks like a waste of effort—pulling in opposite directions—is the essence of generative vitality. The word translated here as attunement is *harmonīē*. Harmony is, after all, the reconciliation of things that contend with one another.⁴⁹²

In this light, each object has an opposition with which it is “made to fit, and in a manner that is fitting.”⁴⁹³ The *something* to which this reconciliation—or “coincidence of opposites”—gives birth, therefore, is beauty,⁴⁹⁴ which we see clearly in the contrasts which unite into a single whole in the pictures Alexander offers us below. We note, too, that these opposites are not automatically or mechanically reconciled, in that the coincidence of, say, light and dark, may bear no life at all (as in the photo of the backlit stairway, which produces a “glare” rather than a “contrast”).⁴⁹⁵ The *manner in which it is fitting* has not been achieved; the centers have failed to find life because “mistakes” have been made or an “eye-catching device” has been employed that ignores the whole for the part.⁴⁹⁶ The only solution here, as Alexander states, is to “draw diagrams, make experiments[,]... sketch something which has the property in it.... It is not enough to catch the property as

⁴⁹² McGilchrist (2021), 1244.

⁴⁹³ Ibid., 1246.

⁴⁹⁴ Ibid., 1244.

⁴⁹⁵ *TNO* 1:203.

⁴⁹⁶ *TNO* 1:203.

you believe it is defined,” which amounts to a mechanical abstraction upon a living world.⁴⁹⁷ “To succeed, you must make a thing which has the property, *and which gains deeper feeling because of the presence of the property.*”⁴⁹⁸ Here we put a finer point on a previous theme: our geometry is one measured through *qualia*, through the careful discernment of a reflection of the contemplated self (our “measure”) in (quantitative) space, a movement of potency to act.

Contrast clearly occurs in natural forms as well (see the butterfly below), but why it occurs, why space and matter differentiate, is not something we can determine exhaustively—beyond, say, Spencer Brown’s “beautiful account of all mathematics arising from the contrast (distinction) between nothing and something [which] tries to show how all structure and form, at the most elementary level, come from contrast.... But why the systems in which living structure appears seem to have contrast more strongly than others—that remains a mystery.”⁴⁹⁹

Let us bring up one other contrast here—one which sheds light on the *sort of mystery* we are invoking when Alexander describes it as “the differentiation of the void which gives birth to matter. All differentiation requires that contrast is created in space, in order to give birth to anything at all.”⁵⁰⁰ Out of just what contrast-less void is symmetry broken, or does differentiation occur? From what unity, in other words, does multiplicity come forth? The *nihil* of our perfect symmetry above allows us to distinguish a *me-ontic*

⁴⁹⁷ TNO 1:203.

⁴⁹⁸ TNO 1:203.

⁴⁹⁹ TNO 1:203, 274.

⁵⁰⁰ TNO 1:203.

void from an *ouk-ontic* void. Nothing that is *lack* (*ouk on*) can have being or, consequently, the force required to generate itself. Only a *creative nothing* (*me on*)—an ostensible absence which stands above all created being as creation’s omnipresent source—differentiates itself endlessly and explains the possibility for the contrasts of being that endlessly unfold.⁵⁰¹ In this sense, some ostensible opposites are not in fact opposites. Evil, for instance, is not an opposite of good, but goodness’s privation (*privatio boni*).⁵⁰² Good has no opposite *per se*. Evil is not a thing which (like the good) stands alone. It is not a thing which is contrasted—for it is, in this light, a lack of contrast (or harmony). Evil paints a contrast-less world, subtracting differentiation. In this sense, the Nazi soldier parade of our former illustration is not an opposite that is *made to fit*. It has no meaning, no potency awaiting birth. It is the end of all differentiation and therefore alien to the creative void (*me on*) that differentiates. In this light, contrast (in league with symmetry breaking from which local symmetries are sprung) is not an act *in* being which vies against the (greater) nothingness of utter homogeneity but an act *of* being whose source is in itself another characteristic incarnation of goodness.

6.2.10 GRADIENTS

Gradients are present all throughout natural forms, marking and signalling the slow, gradual morphology of plants, animals, and physical geography. Mountains have gradients in which, in the ascent through cold air, trees become more thinly spaced, “finally giving

⁵⁰¹ On the theme of *me on* and *auk on*, see Bulgakov (2021), 44; Bulgakov (2012), 229.

⁵⁰² See Augustine (2018), bk. 7.

way to grass and then to rocks, and then to rocks and ice.”⁵⁰³ “In a growing plant or embryo, chemical gradients induced by concentrations of different growth hormones, control emerging cell division and cell type, thus forming morphological gradients in the growing organism.”⁵⁰⁴ The size of drops demonstrate grades in the curl of a wave. Conch shells as well as spider webs (below) show gradation.

Likewise, in art or the built environment, gradients appear as the articulation of a slow, gradual process, a slow movement across a field of centers, forming and lending strength to new centers, connecting the secondary to the primary. In this light, gradients, perhaps more than the other properties, evidence a gentle empiricism, a slow unfolding out of the form itself. Gradation can be expressed mathematically (it is fundamental to integral and differential calculus), but nothing strictly mathematical explains why nature expresses it in such “pervasive and accentuated form” (because nothing, again, explains the first principles of existence beyond an empirical induction through which we come to the event of ipseity, of beauty, of in-itself-ness).⁵⁰⁵

As with any of the properties, gradients are not a by-product, or side detail, but a part of the deep structure of life. They emerge from centers, create centers, and might, in their often arrow-like progression, point toward a virtual center. Alexander offers the illustration of a Norwegian stave church, a Persian glass, the gradients traced in the fingers of Leonardo DaVinci’s hands. The cornice below is formed of bands that establish a gradient for the building. “This gradient, or progression, orients the eye towards the top.

⁵⁰³ *TNO* 1:275.

⁵⁰⁴ *TNO* 1:275.

⁵⁰⁵ *TNO* 1:275, 277.

Thus we see and feel the top of the building coming. The gradient which is created both signals and produces the beginning of the boundary. And by creating this gradient, the building itself—the mass of the building below this cornice—is made more of a center, is a more powerful center. It is the gradient, in this case, which gives the center its life.”⁵⁰⁶

And just as gradients articulate the gentle unfolding of the process, so modern, System-B-style buildings (in which, gradients are “nearly non-existent”) articulate the mechanical language in which they come to be. “The naïve forms of standardization, mass-production (room height determined by 8-foot sheets of plywood) and regulation of sizes (zoning, bank rules, and so on) all work against the formation of gradients and almost do not allow them to occur in buildings or in neighbourhoods.”⁵⁰⁷ Compare any modern development to, for instance, the Golden Gate Bridge, whose beauty is “a rarity in our time.”⁵⁰⁸ The gradients in the bridge are due to the “high cost of the bridge and the importance of structural efficiency made specialized steelwork necessary.”⁵⁰⁹ This example, too, points us toward an important point: In the construction of the Golden Gate Bridge, gradients were not added as ornament but because the high cost of steel made ingenuity of central importance. “In the towers of the Golden Gate Bridge there is a fine gradation of cell size, member size, and plate thickness, from the top of the tower to the bottom, to economize on steel, and place the most material where it is needed most by stresses.”⁵¹⁰ In this light, the critique that System-A methods are antiquated insofar as they

⁵⁰⁶ *TNO* 1:207.

⁵⁰⁷ *TNO* 1:208.

⁵⁰⁸ *TNO* 1:209.

⁵⁰⁹ *TNO* 1:208.

⁵¹⁰ *TNO* 1:209.

require the magnanimity of royal or Rockefellerian budgets is simply not the case. In fact, much the opposite. Placing people into creative interrelation with their environment and its materials may very well be both cheaper and generative of living structure.⁵¹¹

6.2.11 ROUGHNESS

“Things which have real life always have a certain ease, a morphological roughness,” a property which, Alexander states, is not accidental.⁵¹² “It is not a residue of technically inferior culture, or the result of hand-craft inaccuracy. It is an essential structural feature without which a thing cannot be whole.”⁵¹³ It is easy to suppose that the impact which a gothic cathedral, or a Zen teahouse, or a handmade Persian bowl, result from the idiosyncrasies we trace to error, imperfection, or whimsicality in the human hand. But in this way, we “misunderstand” and “misinterpret”—we fall entirely upon the “wrong emphasis.”⁵¹⁴ Rather than *error*, what we are actually noting is *precision*, albeit a precision that brutalist right angles and suburban symmetries have usurped and replaced. Take, for instance, the example of the Anatolian carpet below, particularly in how the border design is handled. The pattern’s turn around each corner is irregular: “The design breaks, and the corner seems ‘patched together.’”⁵¹⁵ However, this does not happen by “carelessness or inaccuracy” but for the simple reason that, at each point along the pattern, close attention

⁵¹¹ This was an emphatic point made by Sir Roger Scruton in his campaign as chair of the Building Better, Building Beautiful commission which sought to develop beautiful traditional homes using simple, inexpensive materials (see <https://www.scruton.org/building-beautiful>).

⁵¹² TNO 1:210.

⁵¹³ TNO 1:210.

⁵¹⁴ TNO 1:210.

⁵¹⁵ TNO 1:211.

is paid to positive space, alternating repetition, or the good shape “of each compartment of the wave and each bit of open space.”⁵¹⁶ Executing a “perfect” solution to the corners would rob from each particular element the constant attention and care to each unfolding step (“right size, right shape... right positive-negative of the border elements”).⁵¹⁷ “The corner solution,” obeying a larger grid, or an overall symmetry, “would then dominate the design in a way which would destroy the weaver’s ability to do what is just right at each point. The life of the design would be destroyed.”⁵¹⁸ In order to care for the more important aspects of the design which occur in the particular elements, “some loose and make-shift composition *must* be done at the corner.... A perfect corner does not matter nearly as much as the correct balance and positive space in the border.”⁵¹⁹ In other words, it is not error we encounter in the life in crafts or buildings (provoking empathy or forgiveness for a quaint or facile attempt) but, on the contrary, skill and precision.

An egoless concern for the particulars of each element trump any totalizing plan, and in such a way the irregularities in the carpet *sustain the regularity* in the overall structure. This is seen, as well, in natural form—in corn as the kernels make room for one another, or in zebra stripes. “If we were to try and paint stripes on a horse with perfect regularity, they would not fit at all, and we should have something that looked, and was, far less regular, far less orderly than the zebra’s coat.”⁵²⁰ Dislocations are necessary as order unfolds in three-dimensional space. The irregularities do not throw off the regularities but,

⁵¹⁶ TNO 1:211.

⁵¹⁷ TNO 1:211.

⁵¹⁸ TNO 1:211.

⁵¹⁹ TNO 1:211.

⁵²⁰ TNO 1:280.

again, demonstrate an ease in form in which compensations in regularity (i.e. a dislocation) occur for the sake of general regularity in a structure. Each irregular characteristic contributes to the coherence.

Schopenhauer tells a story [writes Jenny Quillien] of porcupines who huddled together one night because they were cold. They got too close and poked each other with their spines so they moved apart and got chilly again. They shuffled in and out until they found that “just right” distance where they could be warm and not get poked. When diverse elements “wobble” together so that each finds its spot, roughness arises.”⁵²¹

Even at the microscopic level, atoms—“for so long virtual archetypes of perfect repetition”—exhibit roughness in structure, known, as they now are, to “vary, each from the next, according to the subtle electronic orbits and boundary conditions [which] cause interactions.”⁵²² The photograph of silicon atoms below shows each to be slightly different. “The electronic orbits, though nominally the same, create subtle variations of dimension and position.”⁵²³ “To my knowledge, there has not yet been a general account of roughness as a necessary feature of a morphological system in which minute adaptations are occurring,” states Alexander, a point which would require an acknowledgement, on some level, of an inner-formal coherence, or teleology, in which order is not only capable of

⁵²¹ Quillien (2007), 44.

⁵²² *TNO* 1:280.

⁵²³ *TNO* 1:280.

getting around obstacles of irregularity, but instead *employs* irregularities, dislocations, discontinuities as part of its “intelligence,” analogically speaking.⁵²⁴

Returning to man-made things, we may argue that this movement of naturing is also reflected in us, where roughness occurs as the result of a quality of “abandon.”⁵²⁵ Where roughness is deliberately or consciously wrought, it is mere contrivance, robbing the creative act of spontaneity, or the “spirit of childish abandon,” and therefore resulting in death. We see a clear instance of this childish abandon in the “beautiful roughness” of the tiles from the mosque of Kairouan (below).⁵²⁶ Another way to put it, as Alexander does, is to say that where “abandon” is detected, we see an instance in which a person creates freely; “the artificial, excessively formal, careful, calculated quality in a thing always comes about when a person is not sufficiently abandoned, and not free.”⁵²⁷ In this light, it is not, again, an *error* which charms us but the freedom, care, and delight of the maker that, in turn, allows our souls a participation (to revel too) in this freedom.

Thus, a humility, or *passio*, is necessary to reveal the living nature in both the maker herself and the materials. Alexander offers a story of an old Korean man who uses green wood to turn his bowls. “Will it not cause the wood to split, and check, and crack?” asks his new apprentice, as sap flies everywhere.

“Yes, sometimes.”

“But what happens then, what happens if one of the bowls is checked or cracked?”

⁵²⁴ TNO 1:280.

⁵²⁵ TNO 1:211.

⁵²⁶ TNO 1:212.

⁵²⁷ TNO 1:212.

“I patch it,” says the old man calmly.⁵²⁸

The man, Alexander writes, is “deeply relaxed, not panicked. And in this state where nothing is quite so important, nothing is so terribly, heart-twistingly vital, he knows that he can let the greatest beauty show itself—and this is the only state of mind in which the property of roughness and the breath that lies in a thing which has the ‘it’ in it can ever come to life.”⁵²⁹ Only if we are relaxed, only if we approach the work with childish abandon—which does not mean a thoughtless or uncaring abandon—will roughness occur and thereby let the larger order also be *relaxed*—a quality we easily attribute, for instance, to the Alhambra (below) in whose good shape we read an ease, rather than a rigidity or control.

There is, here, a deep femininity to being as wisdom, or Sophia, that the property of roughness demonstrates, one which both Eastern and Western traditions share. There is, of course, a melancholia to the impermanence and imperfection of things that we encounter in wear, rust, and other signs of age, a witness to the deep structures of being that herald time and decay. Whether in Alexander’s example of a blue worn bench, or in the art of Kintsugi, one observes these qualities of exposure, waiting, passivity, traditionally ascribed to the feminine—indeed, these seem often the crux of a thing’s beauty, what relates itself most dearly as personal (engaging our sympathy).⁵³⁰ However, in Alexander’s description of this roughness—in which the feminine vulnerabilities come to be the very *strength* of a structure—we do not see impermanence but its opposite: a

⁵²⁸ TNO 1:212–13.

⁵²⁹ TNO 1:213.

⁵³⁰ Kintsugi: the Zen Japanese art of repairing crockery with lacquer and gold.

universal structure which seems expressed so that our melancholia about the so-called imperfections of creation is not a melancholia of despair (for the proverbial cherry-blossom whose delicate beauty is underwritten by its death), but one of bitter joy for *life*, underwritten by a lambent wisdom as yet obscure to a creature who knows (and fears that) he must die before he can be taken up fully into it. There is, in other words, a subtle shift the *wabi-to-sabi* aesthetic of Zen Buddhism undergoes when the beauty of dislocation, discontinuity, and a feminine *passio*, is interpreted sophiologically. The former shines over against a potency of death, the latter of a potency even more profound, that of life (in which death, too, discovers its place).⁵³¹

6.2.12 ECHOES

Echoes in natural form appear as a part of the morphological process. Alexander writes, “In all natural systems, deep-lying fundamental processes ultimately give geometric form to the static structure of the system. These processes repeat certain typical angles and proportion over and over again, and it is the statistical character of these angles and proportions which determines the morphological character of the system and its parts.”⁵³²

⁵³¹ Zen metaphysics, like Christian metaphysics, does not stand in universal agreement upon all its themes, though the strongest current is still that of Master Dogen or Yoshida Kenko, both of whom suggest a reality whose “now” is one of new content in each instant. “Were we,” writes Kenko, “to live on forever—were the dewdrops of Adashino never to vanish, the smoke on Toribeyama never to fade away—then indeed would men not feel the pity of things. Truly the beauty of life is its uncertainty. Of all living things, none lives so long as man. Consider how the ephemera awaits the fall of evening, and the summer cicada knows neither spring nor autumn. Even a year of life lived peacefully seems long and happy beyond compare; but for such as never weary of this world and are loth to die, a thousand years would pass away like the dream of a single night.” See Kenko (1967), 231–32. On the other hand, for D. T. Suzuki the mystery emphasized at the heart of contemplative and mystical experience—and thus reflected, like a mirror, in the Buddha nature of creation—is not the absence of a ground, but the absence of a sufficient ability to discursively express this ground without, in the very act, betraying it. We must affirm the groundlessness of the ground in order not to conceptualize the ground—a statement which may already be too cataphatic for the Zen practitioner. Nevertheless, Suzuki aligns Zen’s almost absolute apophaticism not with nihilism, but with the work of, for instance, Meister Eckhart, whose own *koan*-like tendencies seem to use language only as a means to ultimately escape language’s trappings—the “nameless name” or “God beyond God.” See Merton (1968).

⁵³² *TNO* 1:281.

Alexander illustrates this in the “craggy character” of an ageing face (below) in which this quality repeats in “nose, eyebrows, cheeks, stubble, and chin.”⁵³³ “The same process of skin tightening, sagging, and weathering repeats similar combinations of angles.... It is this which gives the beautiful consistent character of the different areas in the man’s face.”⁵³⁴ The curves in a lily, likewise, echo “the same proportions and the same combinations of angles” as “key parameters” in the rules which support its continued growth. “If we wanted to give a general theory, we might say that echoes appear in nature because uniform growth processes create natural homomorphisms and isomorphisms among different parts of any single system,” a theory which holds true to the organic process as to the slow growth of a mountain (below) in which the same angles repeat as echoes over and over again.⁵³⁵

Like the property of gradients, echoes, too, intimate the movement of growth in a structure, a process born upon its visage, pointing to the gradual unfolding of a form.⁵³⁶ In the built environment, this is no less the case. Alexander offers the example of a building by Michelangelo (below) as a negative example where the absence of echoes may confuse or destroy the harmony between the parts, and thus the structure of the whole. “Of all the buildings I know, [Michelangelo’s is] the most useless hodgepodge. It is a salad of motifs and elements. Squares, circles, broken circles, triangles, are pasted together in a riot of disharmony. The angles are all different. The shapes made by the angles are all different.”⁵³⁷ In contrast, the Turkish prayer carpet (below) demonstrates a more familial

⁵³³ *TNO* 1:281.

⁵³⁴ *TNO* 1:281–82.

⁵³⁵ *TNO* 1:282.

⁵³⁶ An echo also denotes a form over against its outward relations (which are never entirely extrinsic), as Pickstock notes. “The windows of a house tend, in their proportions, to echo, and inversely help to constitute, the proportions of the house as a whole.” Pickstock (2013), 22. How we know, say, that a room of a house is a room and not a house in its own right is because it bears a microcosmic echo, or “imprint,” of the form (“house”) in which it participates. The garden outside, on the other hand, as “garden” does not bear the imprint “house” but through generative patterns (e.g., “entrance transition”) seeks interlocking centers that, while not “house,” may share the more all-encompassing echo “home.” Alexander (1977), 548–52.

⁵³⁷ *TNO* 1:218.

structure between its parts, where the motifs together express a “single guiding feeling.”⁵³⁸ Combinations of “alternating right-angles and 45-degree angles” in the “basic cartouche” shape of the various entities echo, even in the fleur-de-lys along the main border, “superficially quite different in shape and character, but which are once again made of the same combinations of right angles and 45-degree angles that appear in the cartouche.”⁵³⁹ In a further example, Alexander notes the Thyangboche Monastery at Mount Everest (below), where “the family resemblance caused by angles are deeper, and we cannot really say so easily quite why they all feel similar.”

In Thyangboche... we feel in some profound and subtle way that this building is part of the mountains.... The angles of the roofs, the way the small roof sits on the larger roof, the “peak” on the largest roof, the band below the roof edge—all reflect or echo one another, and echo the structural feeling of the mountains themselves.⁵⁴⁰

The angles do most of the work, surely, but nevertheless, Alexander states, “It is the process which generates the building, the way stone is used, perhaps the fact that the stone is cut from those very hills and behaves the same, or perhaps because of a deep intuitive relation to the mountains that the builders had, allowing them to make something that comes from the same womb as the mountains themselves.”⁵⁴¹

6.2.13 *THE VOID*

The absence of God is not his silence, for silence stands at the heart of presence; it is, rather, noise, buzz, obsessive busyness that marks human enclosures that ward out the divine. This intuition seems to play out in the ways in which we stave out silence and clutter

⁵³⁸ TNO 1:219.

⁵³⁹ TNO 1:219.

⁵⁴⁰ TNO 1:219–20.

⁵⁴¹ TNO 1:219–20.

each empty space in our modern built environment—as, for instance, in the plan of the “typical” modern office building below, in whose “endless clutter and buzz” “nothing is still.”⁵⁴² A benighted sense of the void accentuates this resistance: the void as *auk on*, as that which spells death, our greatest fear. This sense of the void stands over against that of the *me on*, the abyssal silence which, if we turn slightly, reveals death to be the birth that is through darkness (or the light so bright it appears as darkness)⁵⁴³ from which all life arises. “In the most profound centers which have perfect wholeness, there is at the heart a void which is like water, infinite in depth, surrounded by and contrasted with the clutter of the stuff and fabric all around it.”⁵⁴⁴ As in the floor plan of the Cairo mosque of Baybars or the Ghiordes prayer rug (below), we encounter a connection “with the infinite void, and also with the center of oneself.”⁵⁴⁵ In this light, even a cup or bowl mirrors the self’s deepest center “in the quiet of the space in the bowl itself, its stillness.”⁵⁴⁶ “This emptiness is needed, in some form, by every center, large or small. It is the quiet that draws the center’s energy to itself, gives it the basis of its strength.”⁵⁴⁷ Another way to put it would be to say that all differentiated entities require a non- or less-differentiated space. “They cannot be all fuss; there must be balance of calm and emptiness with the delirious detail. It is the way a large empty center brings life to a mass of smaller centers.”⁵⁴⁸ This large quiet center emphasizes and concentrates the virtual, invisible *me on* that is the creative I-center, or noumena, of every object.

In the built environment, or within art in general, a mathematical explanation cannot describe the event of the void, as Alexander notes. It seems, instead, “a psychological requirement.... The buzz finally diffuses itself, and destroys its own

⁵⁴² TNO 1:223–24.

⁵⁴³ A common image employed by the mystics, particularly St. John of the Cross.

⁵⁴⁴ TNO 1:222.

⁵⁴⁵ TNO 1:222.

⁵⁴⁶ TNO 1:225.

⁵⁴⁷ TNO 1:225.

⁵⁴⁸ TNO 1:225.

structure. The calm is needed to alleviate the buzz.”⁵⁴⁹ This psychological requirement may be tied to the metaphysical mirroring in which self reflects Self (the creative void of each human person reflecting the *meontic* potential depth in each un-hypostatized but hypostatizable entity) insofar as any psychological component, for Alexander, carries the post- (or pre-) Cartesian assumption that mind and world have, or better *find*, union, and thus their reciprocal becoming.

Of the fifteen, the void presents, perhaps, the most explicitly mystical property in according a positive structural value to that which can have no positivity. Natural forms suggest something of this quality too where “minor systems... occur in relation to the ‘quiet’ of some larger and more stable system”—a homogenous zone, in other words, from and around which smaller, more intricate structures arise:⁵⁵⁰ the eye of the storm, for instance, or systems of galaxies, or in the voids of the Great Barrier Reef, “which seem to be the natural counterparts to the dense, complex structures around the edge.”⁵⁵¹ Importantly, however, we cannot say that it is out of the eye of the storm that the storm proceeds, or that it is from these dark and empty regions of the sea that reefs emerge, or that it is through the bright and airy vestibule of a manor that the symmetries, echoes, and gradients spring; a *linear* genealogical movement out of the void would be a naïve way in which to perceive its roll. The void is, as Quillien insightfully notes, a *counterpart*, a silence that works in tandem as a complement to its opposite; true silence is to be encountered only in the *logos* that binds and harmonizes them (as both their transcendence as well as their deepest immanence). In this light, the emptiness within a cup or bowl does not reflect the self merely because all empty spaces do but because it (if placed in right balance) harmonizes opposites, hypostatizing Sophia in a witness to the latent unity or word in which all truth expresses itself. Does this, however, make the emptiness a mere

⁵⁴⁹ TNO 1:225.

⁵⁵⁰ TNO 1:284.

⁵⁵¹ Quillien (2007), 50.

contingency? Does emptiness itself, in itself, play no real part other than to provide a structural complement (would, for instance, another structural complement like big-small or straight-curved work to the same effect)? No, the void as a property is none other than the icon of logos's eternal silence. While it is not the silence itself, it is, when placed rightly in a building or object, a portal into that silence. Physical creation has no greater feminine aspect than in the material emptiness of passive space, without which no unions between objects are made; Sophia is the *ana-logos* of empty space, the womb of every creative union, and thus analogically present as the latent fullness of all space.

6.2.14 SIMPLICITY AND INNER CALM

The simplicity here refers to geometrical simplicity, or the “tangible geometrical form”⁵⁵² wherein natural form appears to follow an Occam's razor of “least energy” as integral to the quality of that form. For example, “the typical three-dimensional form of a leaf, with the particular way the plan and cross-section vary from stem to tip, is the least-weight structure for a cantilever supporting a uniformly distributed load. Thus, the natural form of a leaf closely approaches the ‘ideal,’ least weight, and simplest form.”⁵⁵³ We ought not to make too much of Alexander's use of the term “ideal” here, but it is nevertheless helpful: while this economy of energy presents us with an explanation, simplicity itself has no explanation.⁵⁵⁴ Why a form settles at an equilibrium which itself manifests and communicates that form is amongst those inductions that seem to be the first principles of reality we apprehend, bearing no further (deductive) explanations beyond themselves: it is because it is—in other words, because an irreducible ideal (or *eidos*) grounds it.

Thus the simplicity of a form is simultaneous and coeval with its beauty, or coherence. It is a quality that has to do with “a certain slowness, majesty, quietness,

⁵⁵² TNO 1:226.

⁵⁵³ TNO 1:287.

⁵⁵⁴ TNO 1:287.

which I think of as inner calm,” present in a leaf, or a water droplet, or (to shift to the man-made world) a Shaker cabinet, as opposed to the “the peculiar stylized Italian chairs from the 1920s,”⁵⁵⁵ as seen in the photograph below. “The quality comes about when everything unnecessary is removed. All centers that are not actively supporting other centers are stripped out, cut out, excised. What is left, when boiled away, is the structure in a state of inner calm. It is essential that the great beauty and intricacy of ornament go only just far enough to bring this calm into being, and not so far that it destroys it.”⁵⁵⁶ In this light, ornament is never an addition to a form, a mere dressing up of what is already present in its function, but is itself a part of formal coherence. What the built world, like the natural world, seeks are the intelligible ideals that make an environment comprehensible, living. “We *cannot* separate the two [ornament and function] from one another. What we call ornament and what we call function are simply two versions of one more general phenomenon.”⁵⁵⁷ Therefore, in the built world, alike to the natural, all ornament has its function because function—to be *formally* functional—must have beauty (coherence). This alignment of the two (a conceptual dualism that, like form and matter, are never divisible within the empirical object) marks its simplicity and inner calm.

Among those who stand at the acme of this marriage between ornament and function are, for Alexander, the Shakers. “At first sight, it looks like other early American furniture. But when we compare it with other early American furniture, we find a number of striking, and crucial, differences.”⁵⁵⁸ Of the handful of qualities that Alexander lists, “unusual proportion” is the most interesting here, in that the “strange” proportions in height and length of Shaker furniture which “refuse convention”—always with the functional intent of using more room-space than typically proportioned furniture—result in “remarkable” and “even startling” pieces. “Many of the pieces are strange in some specific

⁵⁵⁵ TNO 1:226.

⁵⁵⁶ TNO 1:226.

⁵⁵⁷ TNO 1:415.

⁵⁵⁸ TNO 1:227.

way[:]... a chest with drawers opening from different sides; two beds sliding under a bigger bed; a table with drawers hanging on either side of the pedestal.... Always these ‘strange’ configurations have good reasons, and come from an uncompromising steadfastness to function, following the thing to its logical conclusion[,]... an extreme freedom.”⁵⁵⁹

Lest we think, however, that it is only in an “outward” simplicity—which the austerity of Shaker work can easily invoke (though it would be a superficial assessment)—Alexander emphasizes the much more important “inner” simplicity of a form, arising even within strong complexity. He offers a carved Norwegian dragon (below) as an example. “Everything essential has been left; nothing extraneous remains. The result is simple in a profound sense, but not in the superficial geometric sense. So it is not true that outward simplicity creates inner calm; it is only inner simplicity, true simplicity of heart, which creates it.”⁵⁶⁰

The property of simplicity and inner calm is not just a subjective impression but a judgment upon objective formal coherence, upon a global structural character of a form in which ornament and function harmonize—a coherence (or beauty) that, not incidentally, bears an immediate reflection within the nature of the creative act. In the maker, humility is the “space” in which we find the proportions that put us into right relationship with the world, the balanced attention of the will in which act and receptivity harmonize in freedom.

6.2.15 NOT-SEPARATENESS

This property perhaps requires the least gloss insofar as it is the most self-evident in the line of argument we have thus far developed. Not-separateness is, indeed, what the concept of “world soul” intends; it is the deeper unity or Sophia which connects all reality—its true *life* and character—which comes into view when we see things

⁵⁵⁹ TNO 1:227.

⁵⁶⁰ TNO 1:228.

contemplatively, in their proper light. Each of the properties so far have sought to name an aspect of this quality, making this not-separateness the “most important property of all.”⁵⁶¹ It is—much as prudence in the classical virtues—the cardinal star that orients the former properties. “I have discovered that the other fourteen ways in which centers come to life will make a center which is compact, beautiful, determined, subtle—but which, without this fifteenth property, can still often somehow be strangely separate, cut off from what lies around it, lonely, awkward in its loneliness, too brittle, too sharp, perhaps too well delineated—above all too egocentric, because it shouts, ‘Look at me, look at me, look how beautiful I am.’”⁵⁶² Like the void or simplicity and inner calm, the property of not-separateness remains elusive to mathematical explication, though Alexander notes attempts in Mach’s principle (an early formulation led by an intuition that the “gravitational constant G [gravity]” depends upon the “total amount of matter in the world”) and Bell’s theorem (which “asserts the deep connectedness of matter and space” beyond the mere transference of “mechanical and causal processes”).⁵⁶³ Whether or not we can apply a geometrical formula to it, not-separateness communicates itself clearly in the natural world, where we encounter “no perfect isolation of any system.... Each part... is always part of larger systems in the world around it and is connected to them deeply in behavior.”⁵⁶⁴ As Saul Bellow’s Augie March remarks, “There is no fineness or accuracy of suppression; if you hold down one thing you hold down the adjoining.”⁵⁶⁵ The way we bring

⁵⁶¹ *TNO* 1:231.

⁵⁶² *TNO* 1:231.

⁵⁶³ *TNO* 1:288.

⁵⁶⁴ *TNO* 1:288.

⁵⁶⁵ Bellow (1999), 1.

life to the built world, the way a thing is “smokily drawn into the world around it,” interestingly for Alexander, has much to do with boundaries.⁵⁶⁶ While echoes, levels of scale, gradients all contribute, the point of boundaries is again stressed: a thing achieves not-separateness not from fragmented boundaries, but from clear boundaries that are, nonetheless, interlocked and ambiguous—invoking this “smoky” effect, or, in Nicholas of Cusa’s terminology, the “misty space” where separation and union coincide.⁵⁶⁷

6.3 Conclusion

In the above properties we have discussed physical characteristics that say something to the integrity (or life) of every form, whether we speak of the difference-in-unity grasped in boundaries; the unitive melody sustaining relationship in contrasting opposites; the symmetry-breaking at the heart of being’s meontic act; the perfecting roughness that elevates even the irregularity of a zebra stripe or rug motif to an icon of kenosis; or the analogical echoes which resonate (or nonidentically repeat) in and between things and which draw us back to the first “Thing” (the “Void”) in which each discerns its own peculiar instance as assured and yet mysterious, with ambiguities at every border. In this respect, Alexander’s fifteen properties go beyond aesthetics—they describe a relational, sophiological ontology, a truth toward which their beauty guides us.

Of course, to understand these properties as quantifiable aspects of form is central to the point: to emphasize the beauty of form without a grounding of it in the material of our

⁵⁶⁶ *TNO*1:231–32.

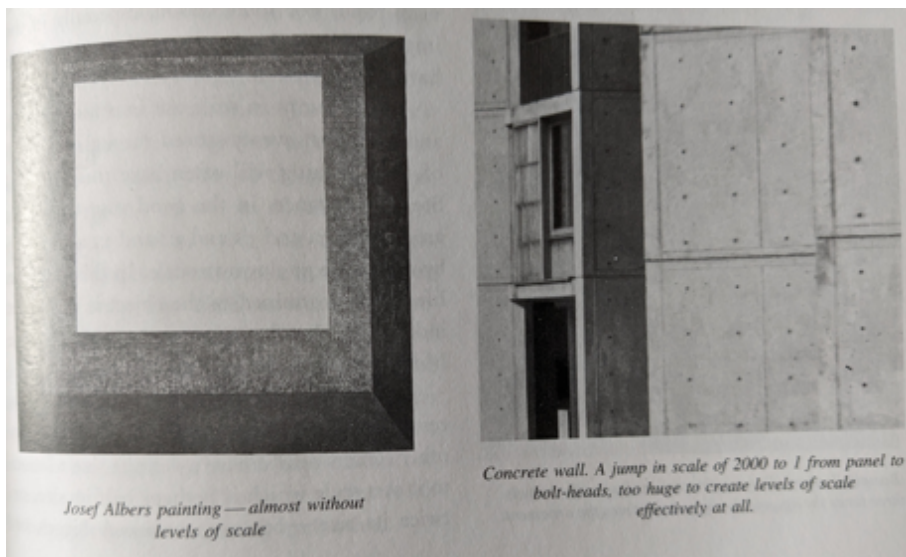
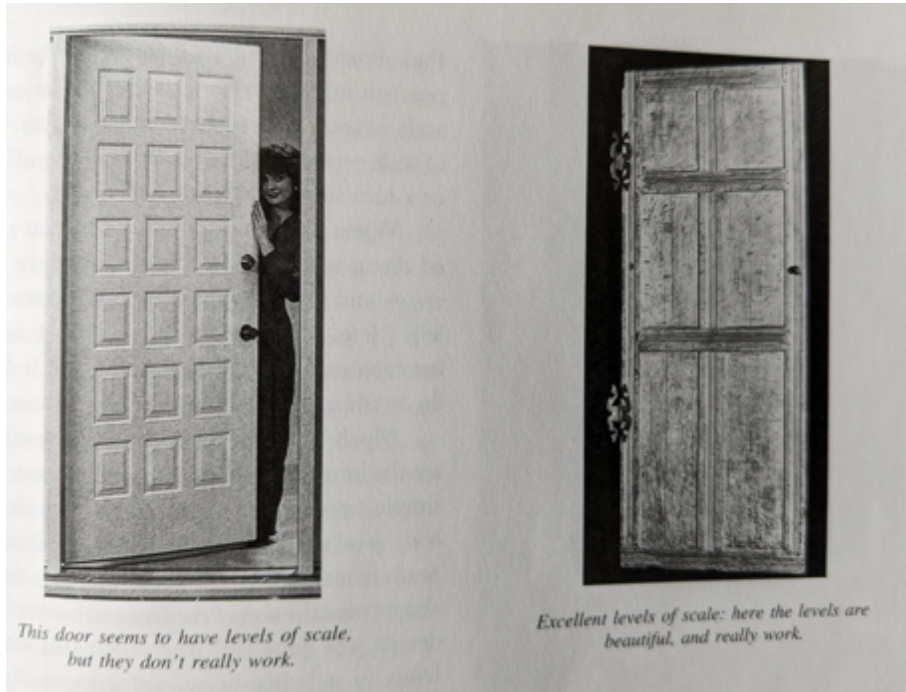
⁵⁶⁷ Hoff (2013), 69–75.

world threatens an unchecked return to Cartesian (dualistic) presuppositions. To lose the point, however, would be to fail to recognize that each physical property expresses a noetic structure that achieves in the physical an address to our intuition by which we may know or name the reality of quantities at all. Without a delicate empiricism, therefore, the depth of these formal properties, and their personal intimacy (the generative unfolding they induce in our own nature) is lost.

There is, however, a further difficulty to pursue. While we may understand these properties as coming together within the human artifact by an intentional act of the artist or architect to produce coherent and beautiful form (a desire available to our “intimate sense”), the telos which steers natural objects toward coherence—sustaining these properties through each generative transformation—presents a far more tricky consideration, one which we must give further account if we are to suppose “life” in anything but ourselves. The crucial question becomes: can we ascribe a rational teleology to nonhuman objects such that these properties reflect a wisdom that is irreducible to material explanation and, therefore, better described by a metaphysics of life? As we will see in the following chapter, Alexander—by an adherence to empirical honesty, and an aversion to simplistic notions of teleology—compels and challenges us to respond to this question with careful nuance.

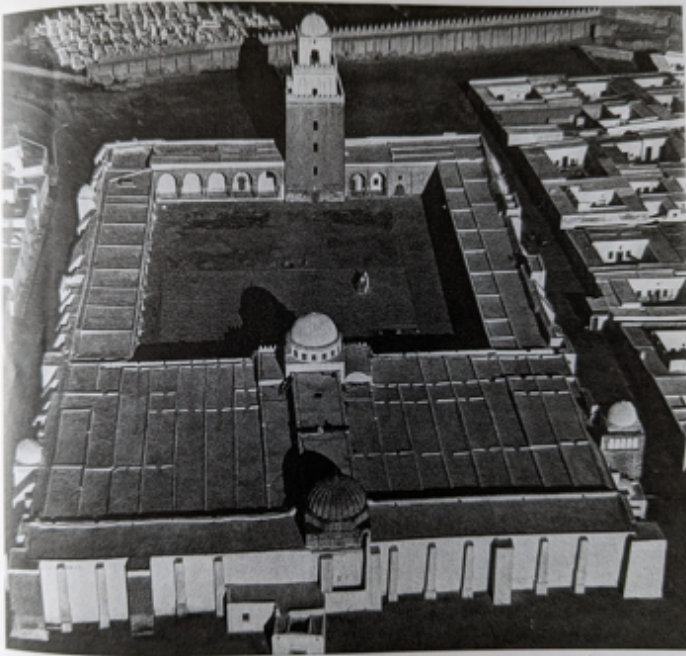
6.3 Photos to accompany text of chs. 6 & 7

1. Levels of Scale



Top-down: Doors (1:147); Josef Albers painting & concrete wall (1:147)

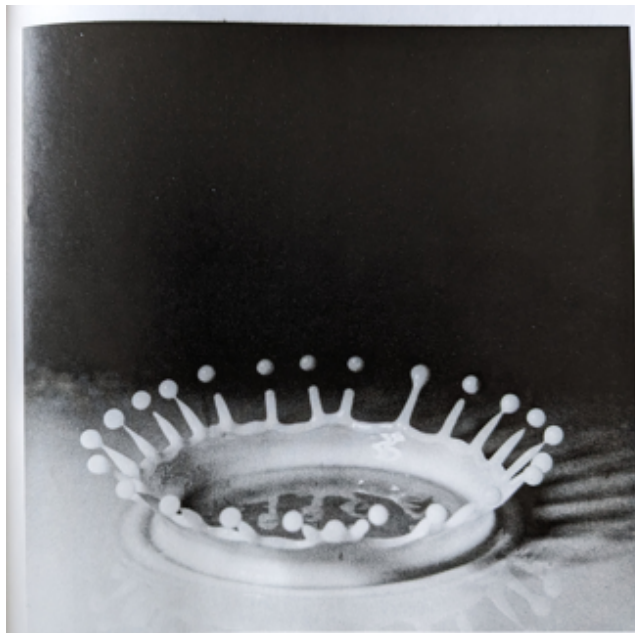
2. Strong Centers



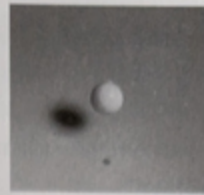
Highly positive example of centers: in the mosque of Kairouan: every part, and every part of every part, is a strong center, and the whole is also a strong center formed by the field effect of all the other centers.



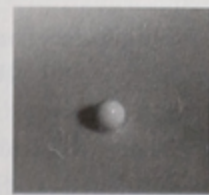
Highly negative example of centers: house by Bruce Goff, full of weak centers



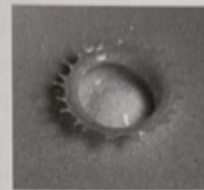
Harold Edgerton's photograph of a milk drop splash, showing beautiful formation of a center, itself made of many centers



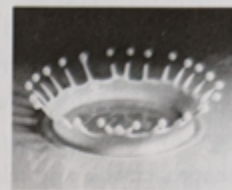
Stage 1



Stage 2



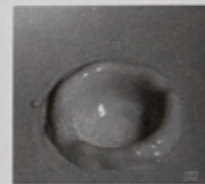
Stage 3



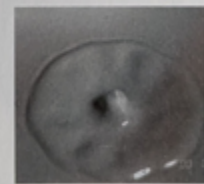
Stage 4



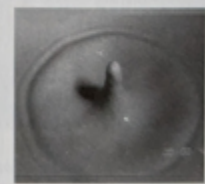
Stage 5



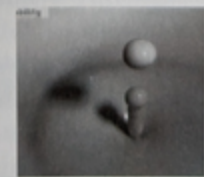
Stage 6



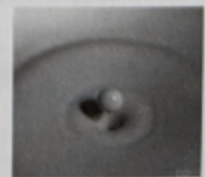
Stage 7



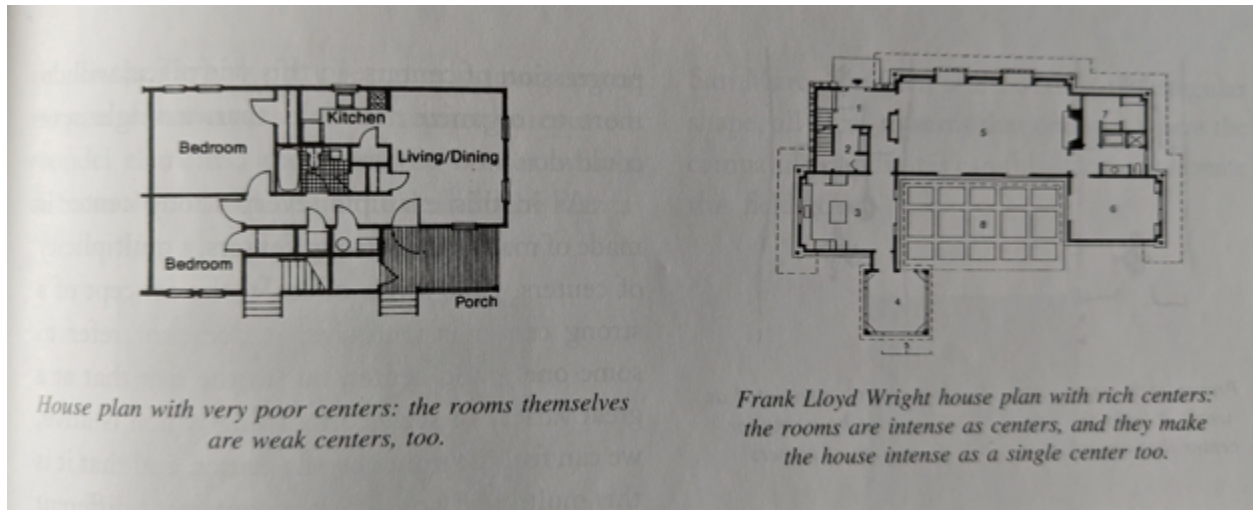
Stage 8



Stage 9

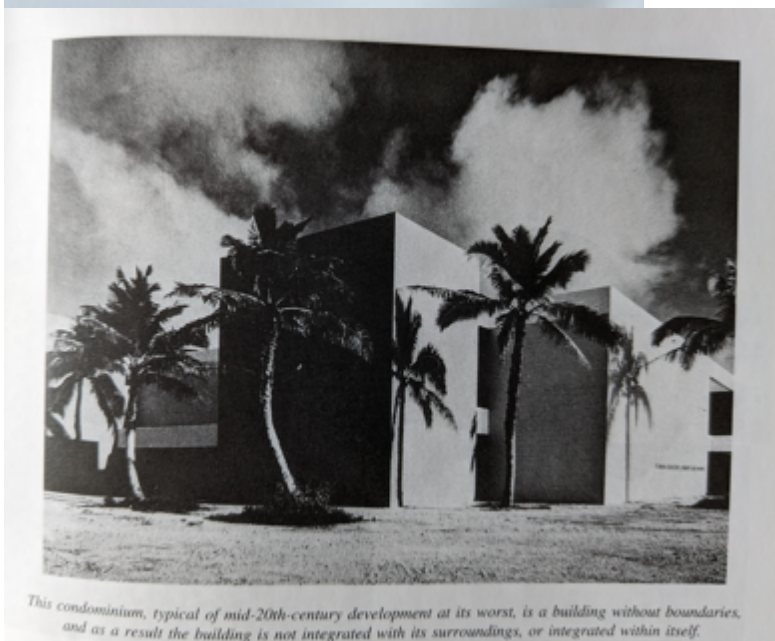


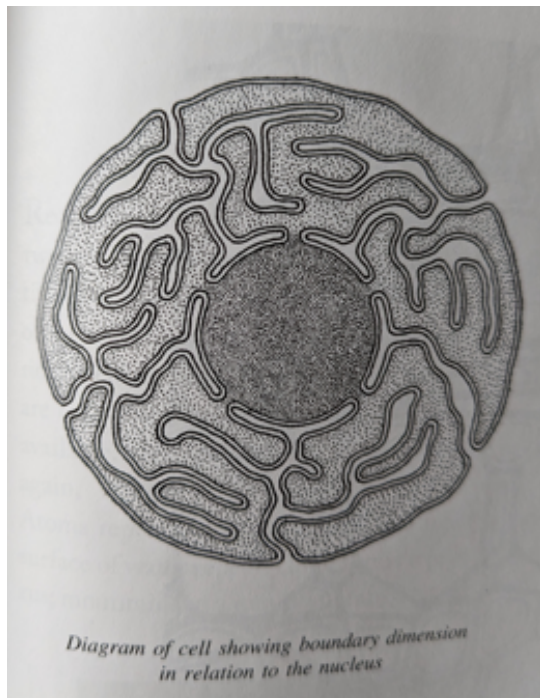
Stage 10



Top-down: The mosque of Kairouan (1:151); house by architect Bruce Goff (1:152); splashing milk drop (1:251); milk drop series (2:25); floor plan of typical house (1:155)

3. Boundaries





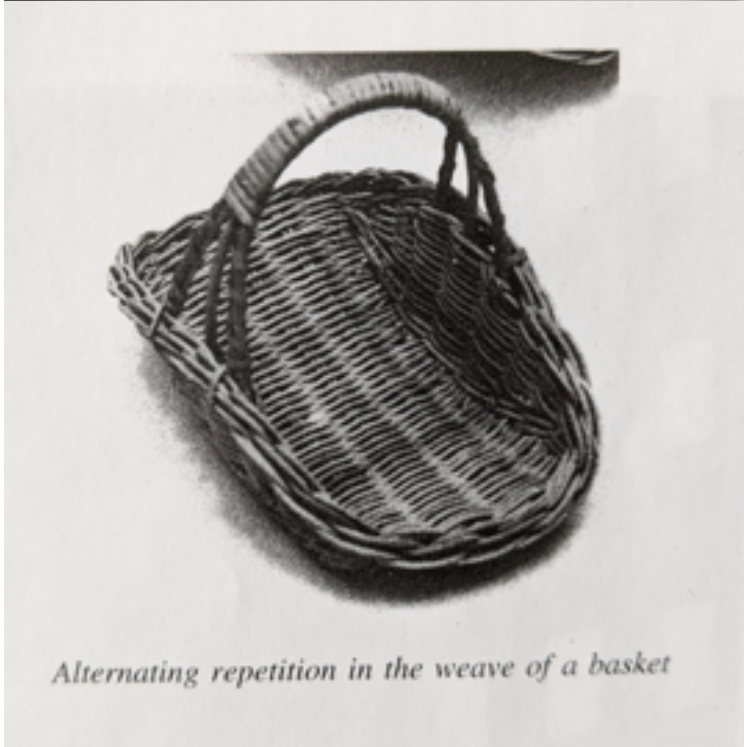


Top-down: Norwegian storehouse (1:158); cell (1:159); condominium (1:159); Castle of Gwalior (1:255); Persian manuscript (1:255)

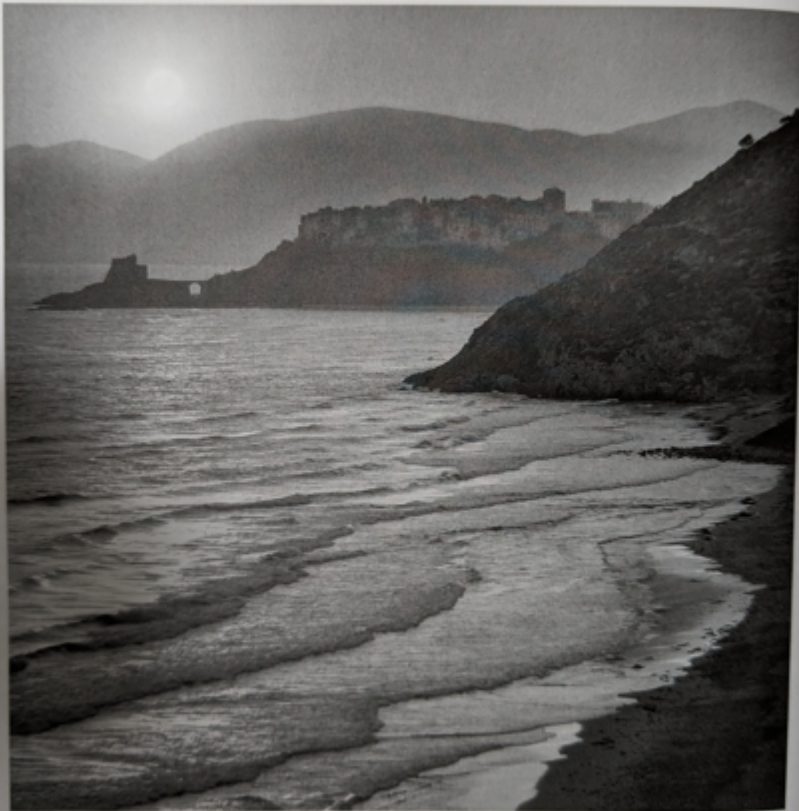
4. Alternating Repetition



Band repetition: there is no alternation here, there are no meaningful centers formed anywhere within the forms and spaces which repeat.



Alternating repetition in the weave of a basket



Inlets and mountains, troughs and waves, all alternating

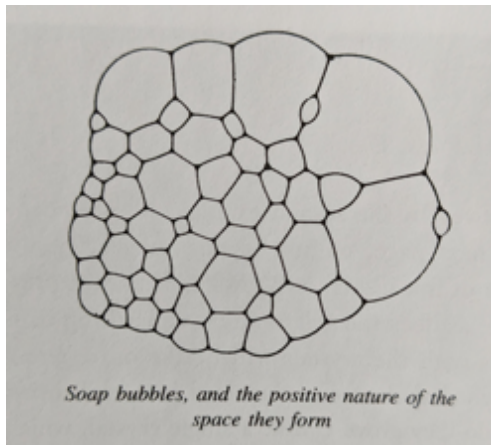


Stones in a field-stone wall



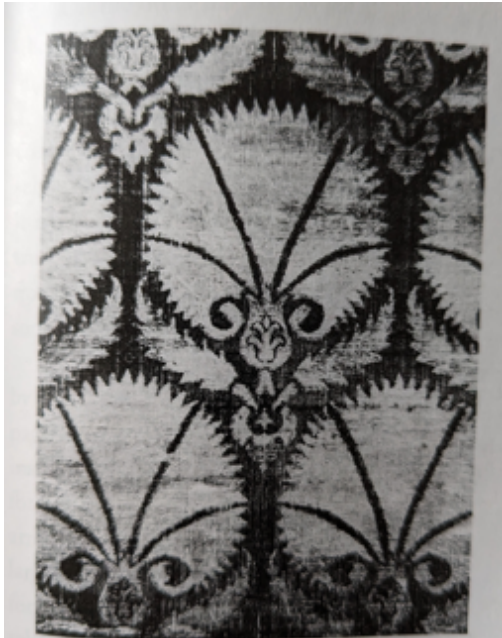
Top-down: façade of the building (1:168); Greek embroidery (1:168); woven basket and field-stone wall (1:166); inlets that gently alternate with the mountains along a shore (1:167)

5. Positive Space

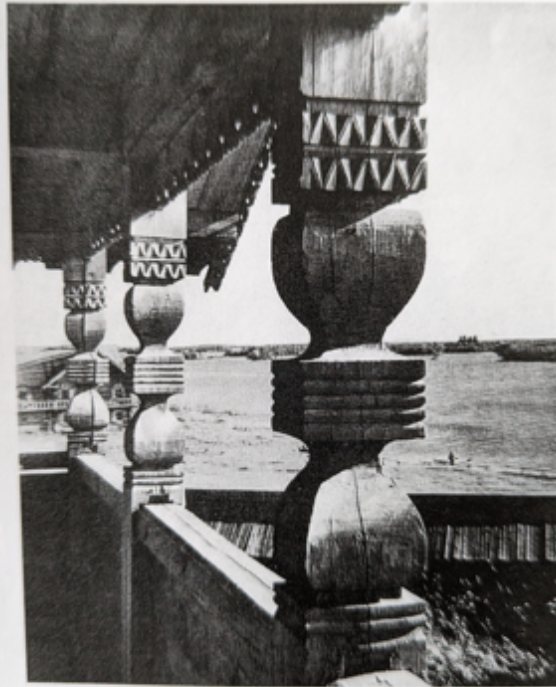


Top-down: soap bubble (1:262); the Nolli plan of Rome (1:173)

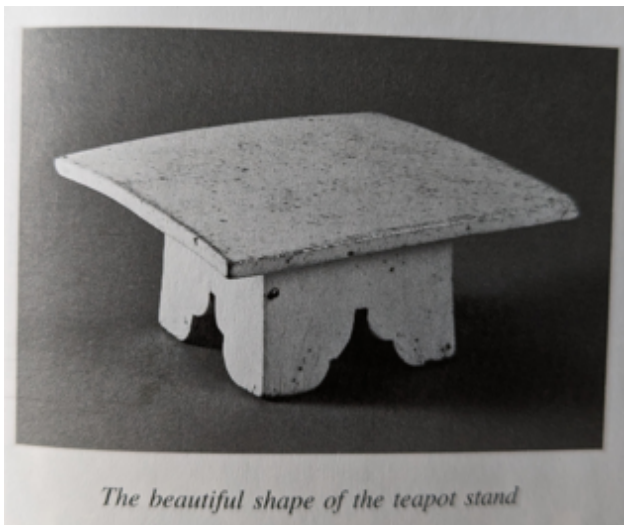
6. Good Shape



Good shape in the elements of a figured velvet, 16th-century Turkey



Good shape in a primitive carved column, Romania



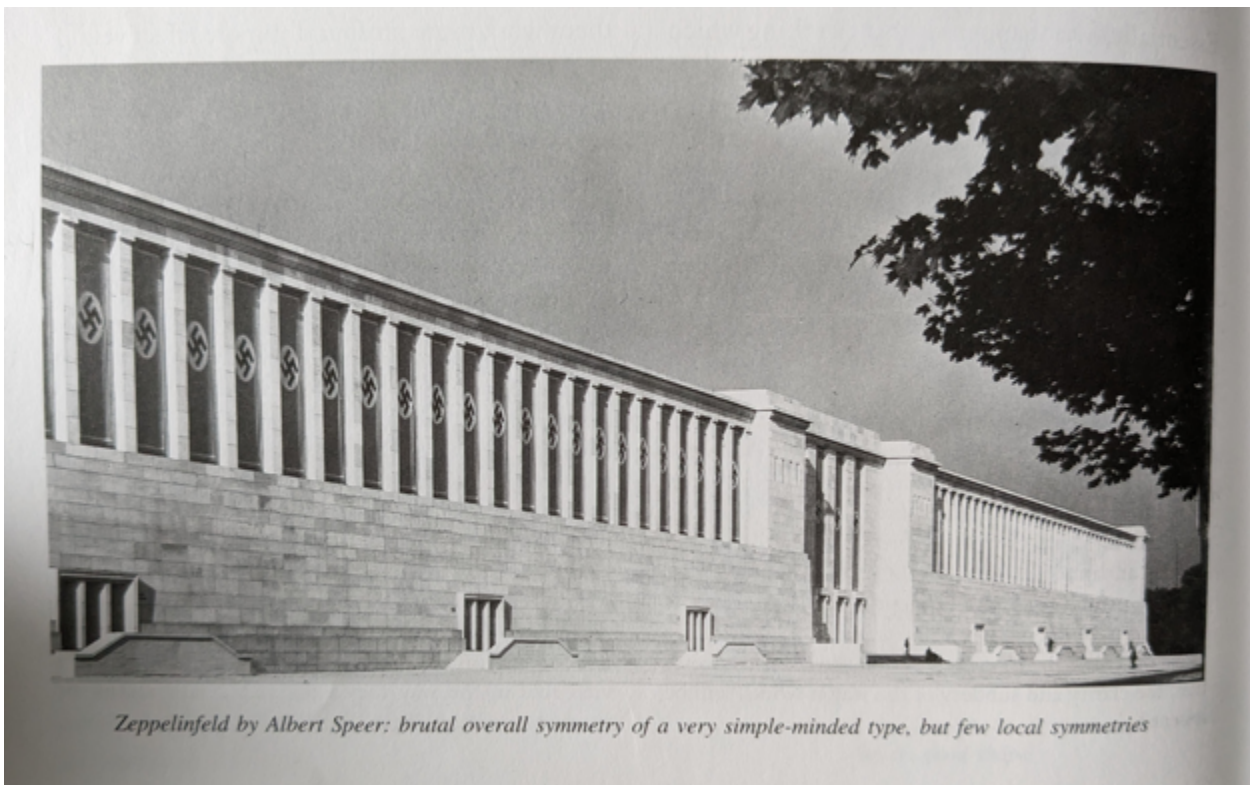
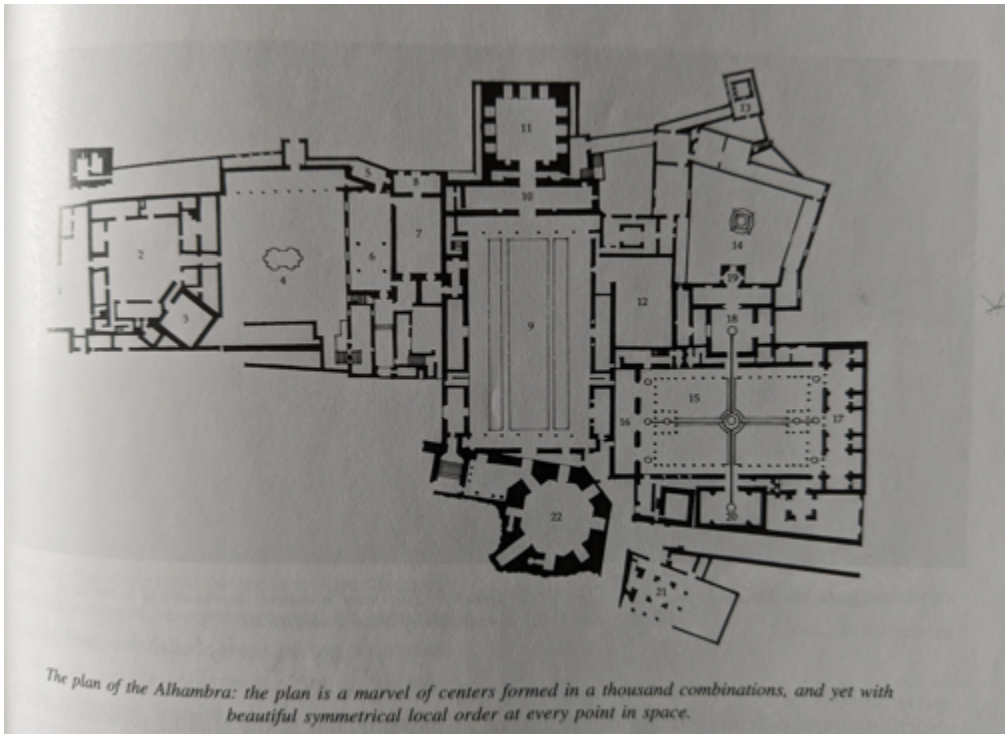
The beautiful shape of the teapot stand

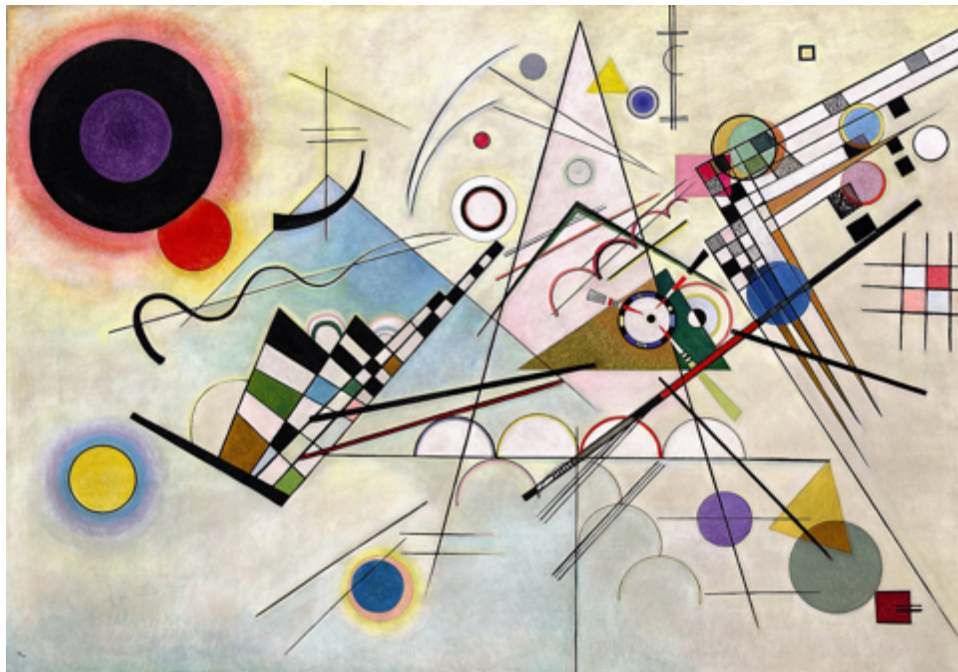
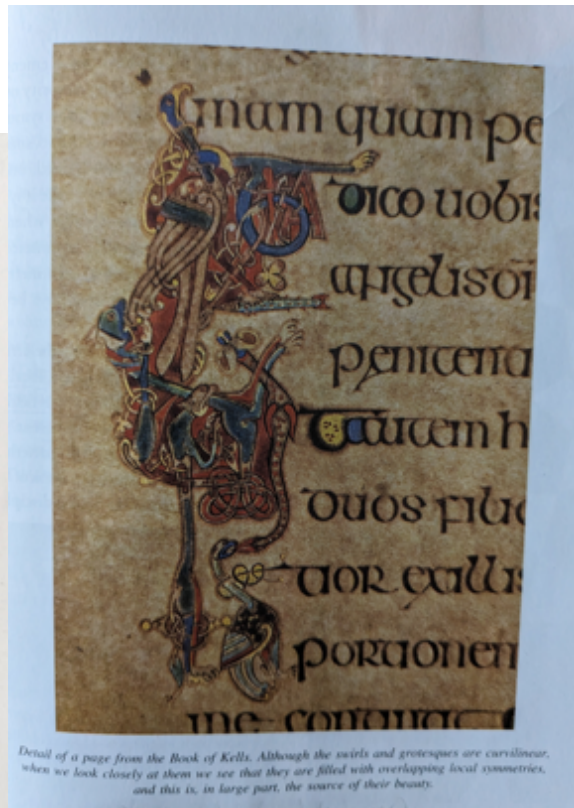
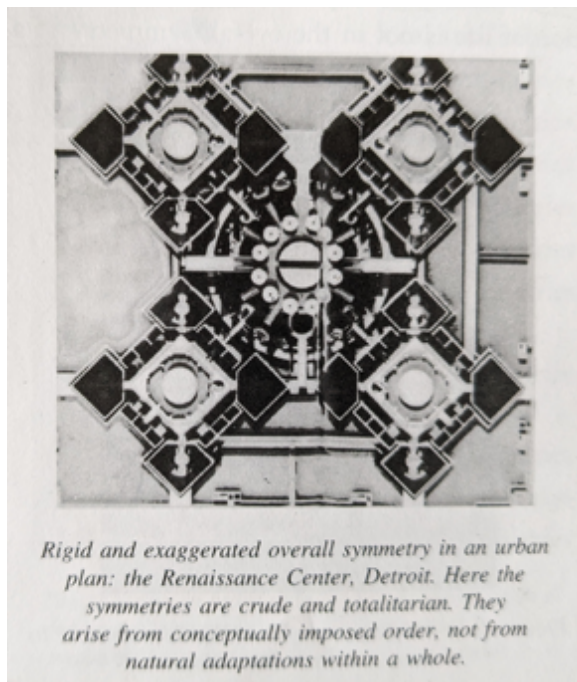


Terrible shape in a futuristic chair

Top-down: Turkish Velvet & Romanian Column (1:179); teapot stand & futuristic chair (1:181)

7. Local Symmetries

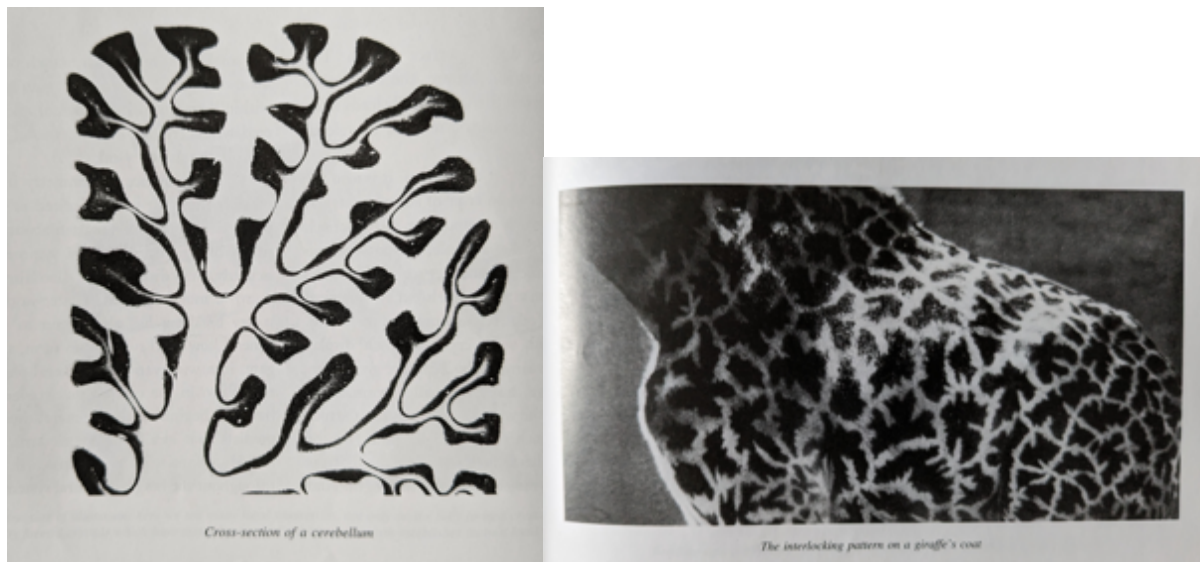




Top-down: the Alhambra (1:187); the Zeppelinfeld (1:186); Renaissance Center, Detroit. (1:187); Book of Kells (1:193); Kandinsky's *Composition 8*

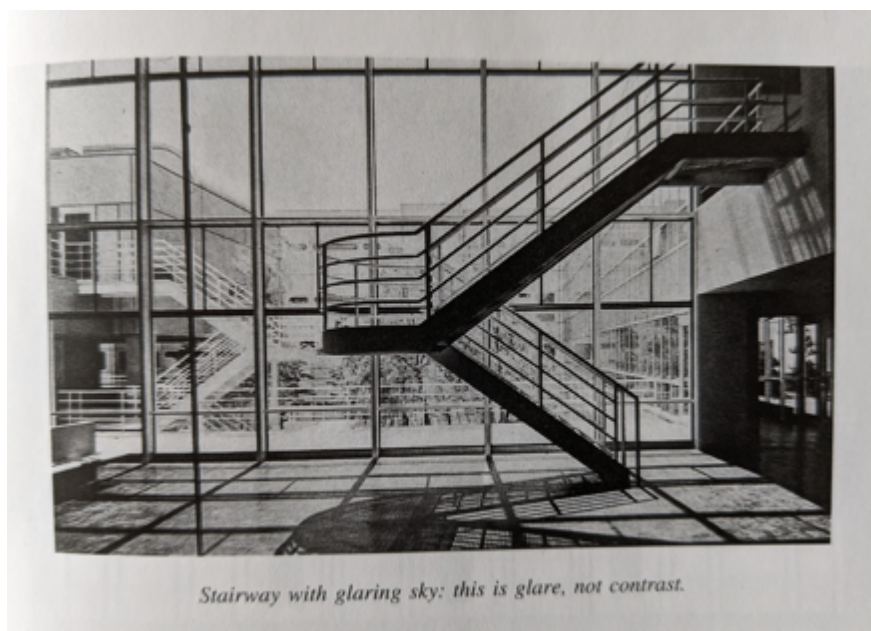
8. Deep Interlock and Ambiguity





Top-down: the houses, arcades and galleries (1:196); Shang bronze (1:197); tile-work from Tabriz Mosque (1:198); *The Yellow Mimosa* (1:199); the cerebellum & giraffe's coat (1:271)

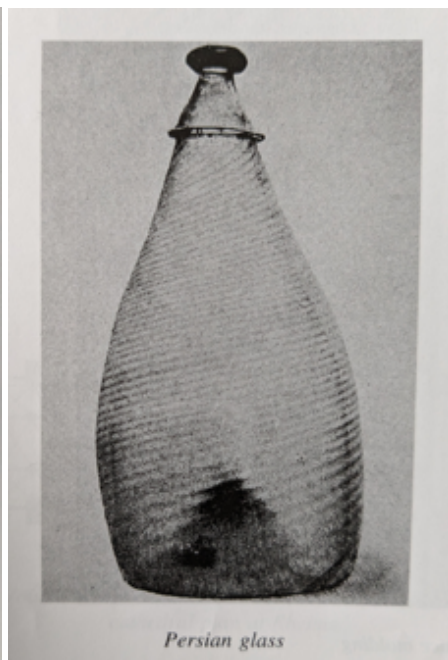
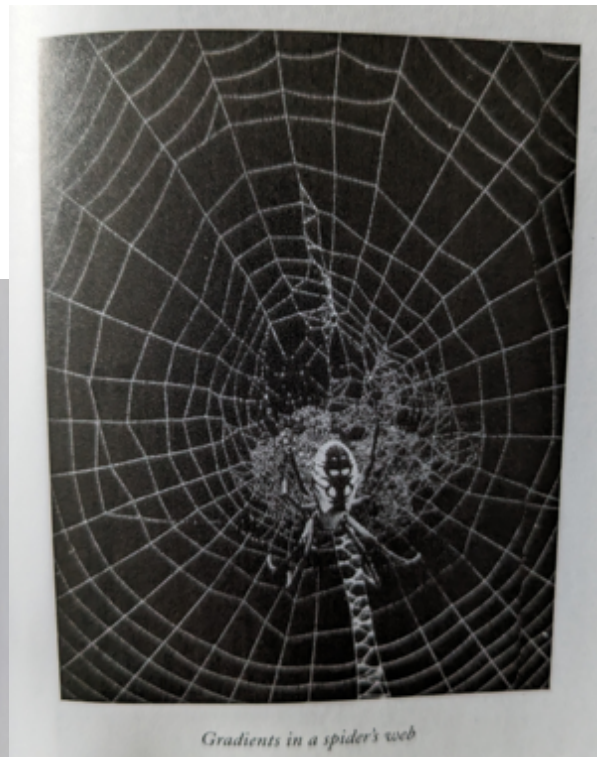
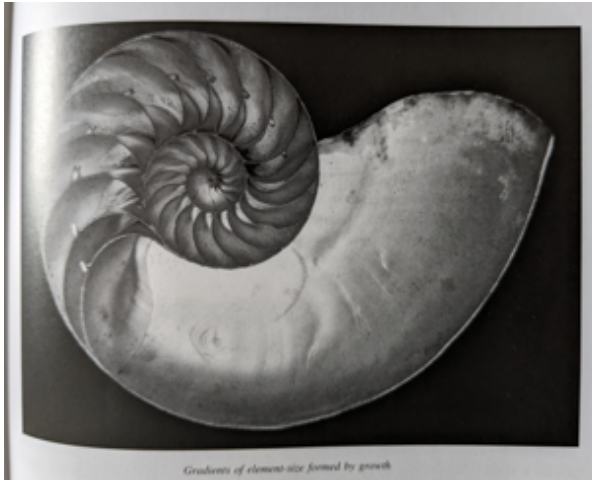
9. Contrast

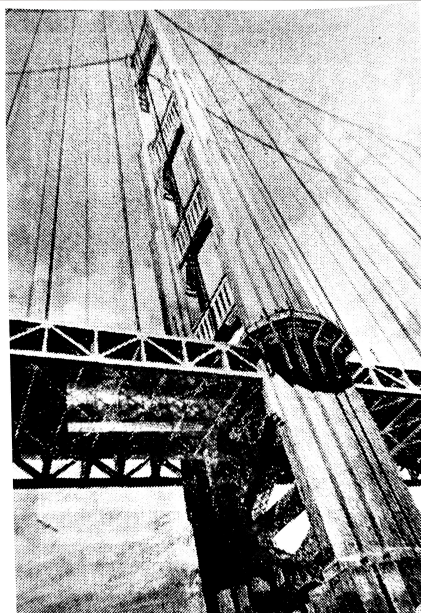
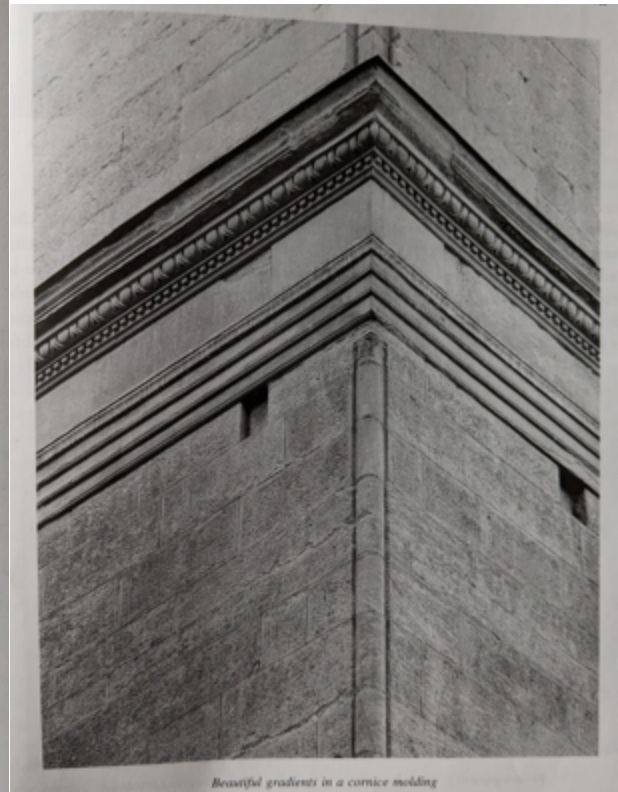
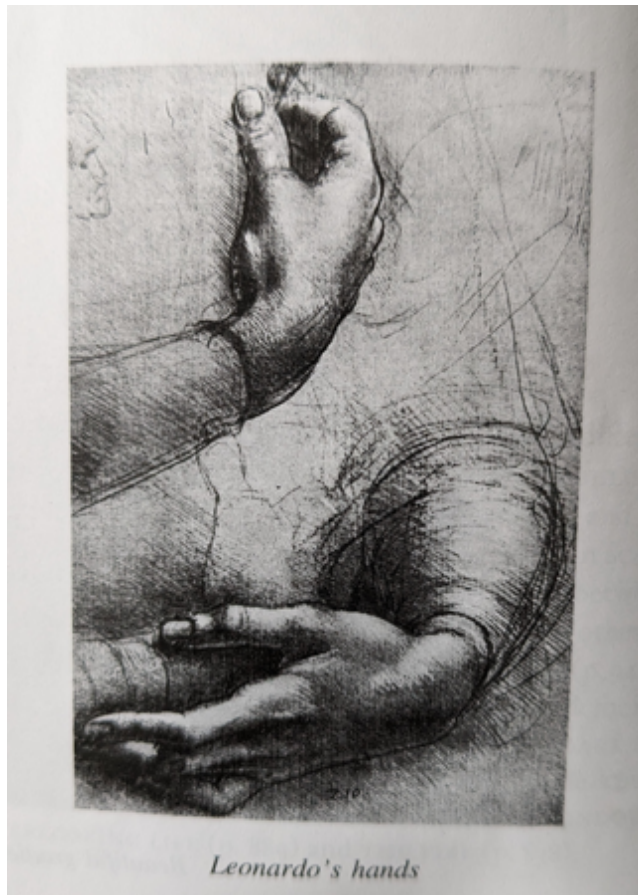




Top-down: photos exhibiting contrast (1:201); the backlit stairway (1:203); butterfly (1:274)

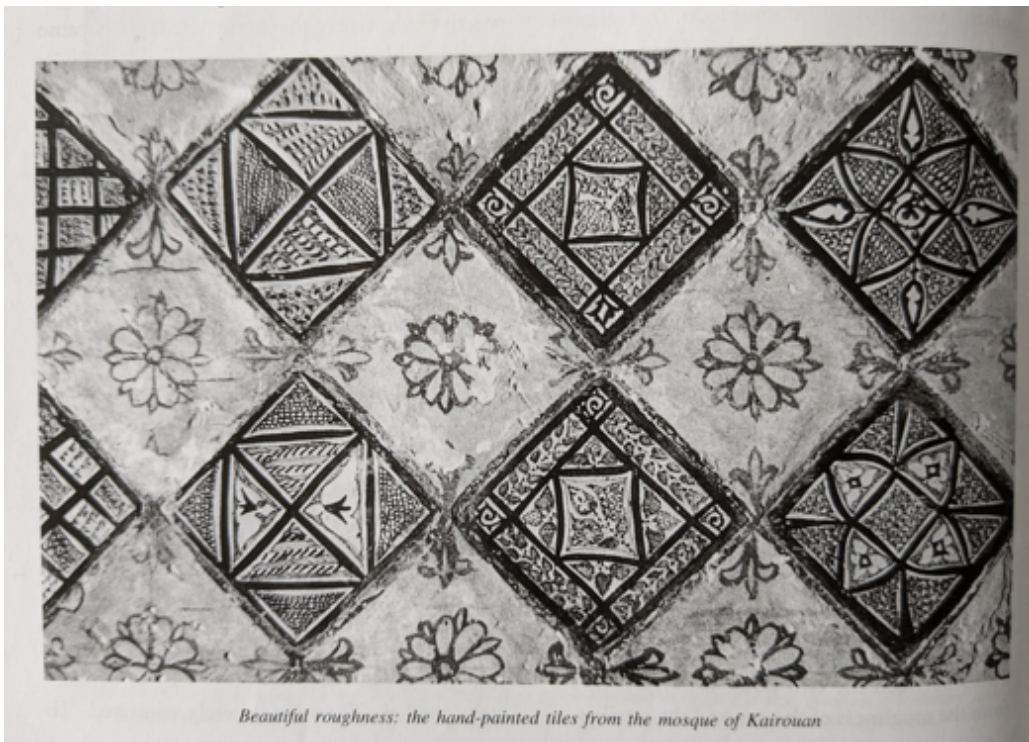
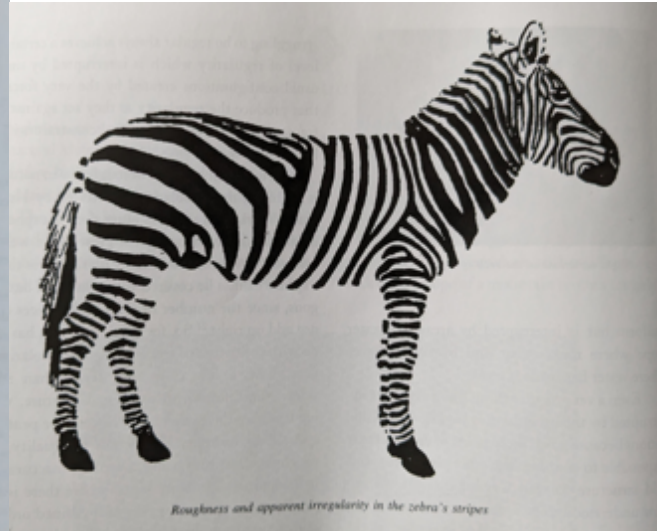
10. Gradients

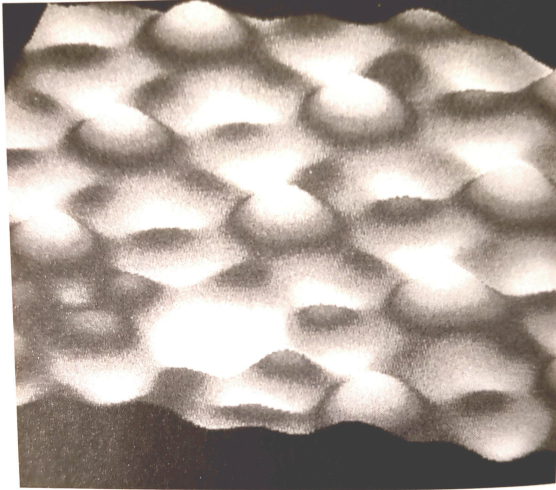




Top-down: gradation in a conch-like form & spider web (1:277); Norwegian stave church (1:207); Persian glass & DaVinci's fingers (1:206); cornice (1:205); Golden Gate Bridge (1:208)

11. Roughness

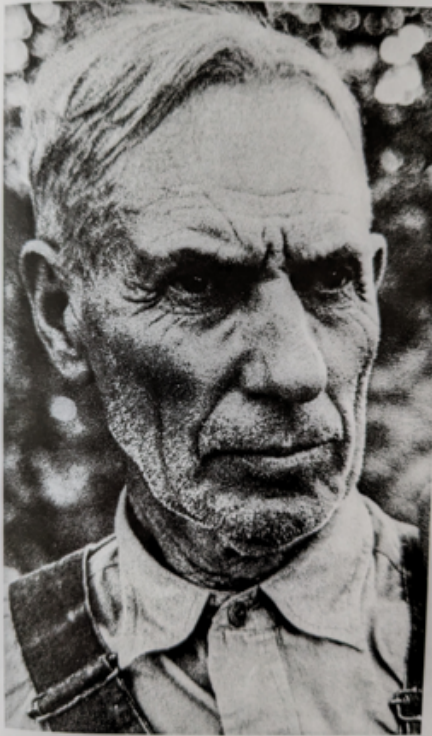




Photograph of silicon atoms shows that each atom is slightly different. The electronic orbits, though nominally the same, create subtle variations of dimension and position, according to their interactions.

Top-down: Anatolian carpet (1:213); zebra stripes (1:280); tiles from the mosque of Kairouan (1:212); silicon atoms (1:280)

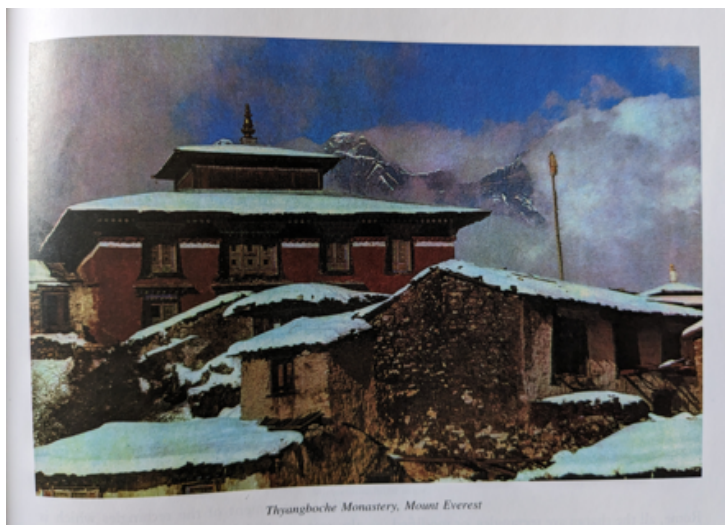
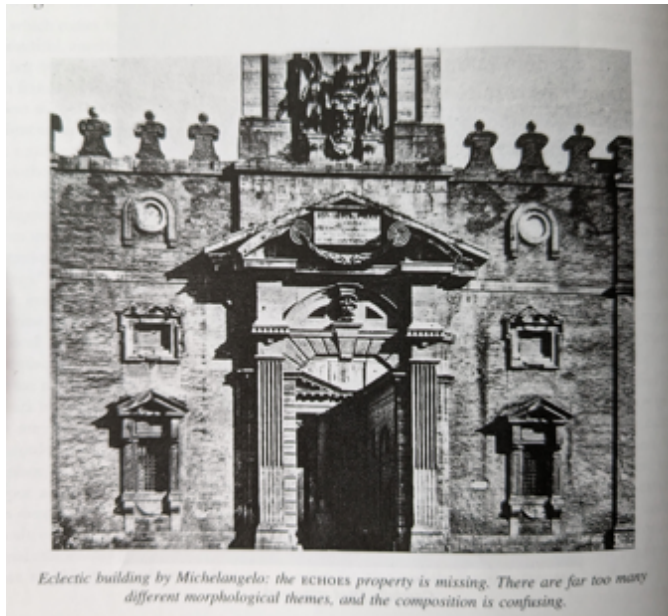
12. Echoes



The same lines again and again in a weatherbeaten face

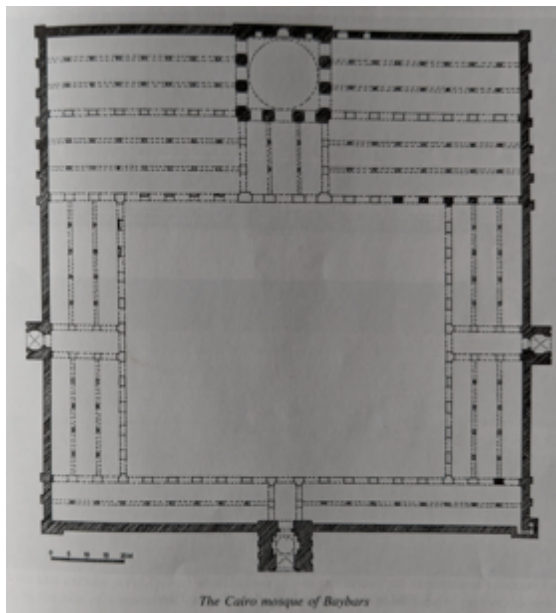
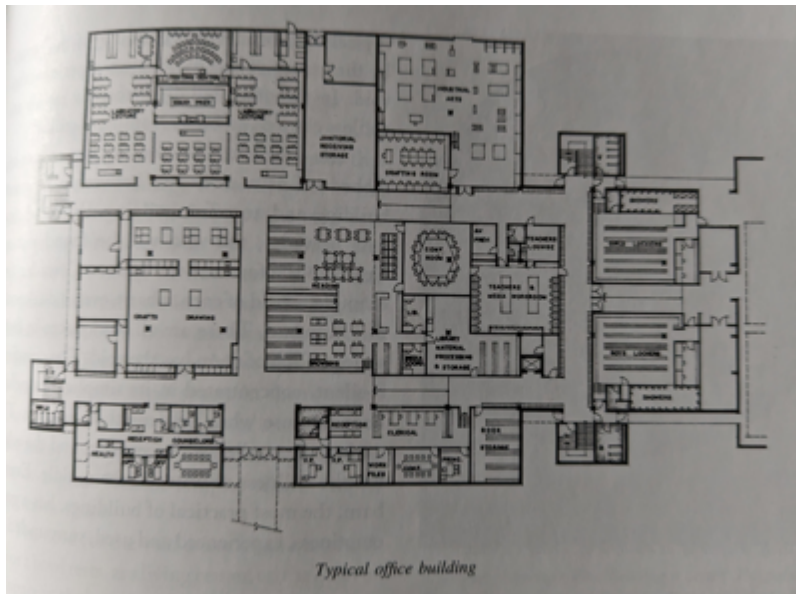


Characteristic rock pattern on the north ridge of Everest: the same angles, hence the echoes of repeating forms, appear again and again.



Top-down: “nose, eyebrows, cheeks, stubble, and chin” (1:281); mountain (1:283); building by Michelangelo (1:218); Turkish prayer carpet (1:219); Thyangboche Monastery at Mount Everest (1:219)

13. The Void



Top-down: modern office building floor-plan (1:223); Cairo mosque of Baybars floor-plan (1:223); Ghiordes prayer rug (1:222)

14. Simplicity and Inner Calm



Shaker cabinet: the most beautiful inner calm



Italian chairs: gross, and utterly lacking in inner calm



Top-down: Shaker cabinet & Italian chair (1:226); carved Norwegian dragon (1:228)

7. LANGUAGE AND TELOS

7.1 Introduction

In the second volume of *The Nature of Order*, Alexander takes the reader through the creative process in which life is achieved in the contemplatively grounded deployment of these fifteen properties within the built environment. The text deals centrally, and in further detail, with the process of differentiation—from the “sequence of unfolding” to “making every part unique” to “the social and monetary cost of the one million mistakes in a fabricated community” to the much more specific “how to create a meadow” while always (necessarily) stirring in among these practical themes spiritually and psychologically supple ones: “the result must be unpredictable,” “glimpses of the eternal,” “the mental change needed to allow yourself the possibility of using generative sequence while making a design,” etc.⁵⁶⁸ While many important themes are broached to help train one’s understanding of the fifteen properties, the majority fall outside our scope given the sheer range of topics covered. There are, nevertheless, two themes that will serve our argument—the first one, explicitly; the second, with challenges—but ultimately refining our concept of the world soul by pushing us into some finer details regarding the agency of (nonhuman) nature and efficient and final causes.

7.2 Form Language: *The Fifteen Properties Understood as a Timeless Language That Describes the Relational Dimension of Architecture and Form*

⁵⁶⁸ Listed themes drawn from across the whole of *TNO*, vol. 2.

In volume two, Alexander offers the fifteen properties as a new “form-language” for building. This suggestion of a “language” travels to the heart of how we understand the properties; for it is not simply beautiful structures in our environment that enable us to create further beauty—not if we cannot delineate what makes them beautiful. The object of the task remains elusive without “the combinatory system we grow in our minds,” the “repository of style” that we call a form language.⁵⁶⁹ “It is the box of tricks, the elements, rules, ways of making roofs, edges, windows, steps, the ceiling of a room. The way to make a wall, the way to make a column. The shape of the edge where the building meets the sky.”⁵⁷⁰ “The form-language is the (usually unspoken) combinatory system of these schemata (social, technological, geometric, stylistic, etc.) which architects and builders have in their minds about how buildings ought to be organized, how built, how they must look.”⁵⁷¹ At any given historical period, these schemata will form, in general, what is possible: “We cannot help working within an existing form-language[,]... the available processes of our time.... Even with the best will in the world, *we shall only be able to reproduce versions and combinations of what can be ‘reached’ by that form language.*”⁵⁷² This is not a species of structuralism but the simple recognition that even a virtuoso as, say, Beethoven—said to eschew the influence of his predecessors and contemporaries—still composed music for what we can all commonly recognize as a symphony, an adagio,

⁵⁶⁹ TNO 2:432.

⁵⁷⁰ TNO 2:432.

⁵⁷¹ TNO 2:432.

⁵⁷² TNO 2:433.

or a fugue. As we have said earlier, freedom only unfolds within a deference to certain governing laws: the painter needs the canvas, just as the figure skater needs the ice.

However, there is a determining factor in form language that takes us beyond these analogies. An avant-garde architect, for instance, *obeys* laws of physics, observing—perhaps more than anything—the gravity which resists his efforts. But where it may be comprehensible *as* architecture, it may not be *comprehensible* architecture. Form language—as in traditional societies “that embodied a coherent geometric, visual, physical style”—is a language to be shared; this, the idiosyncratic expressions of the avant garde cannot provide other than in novel and abstracted ways that do not make a home (a coherence) of space.⁵⁷³

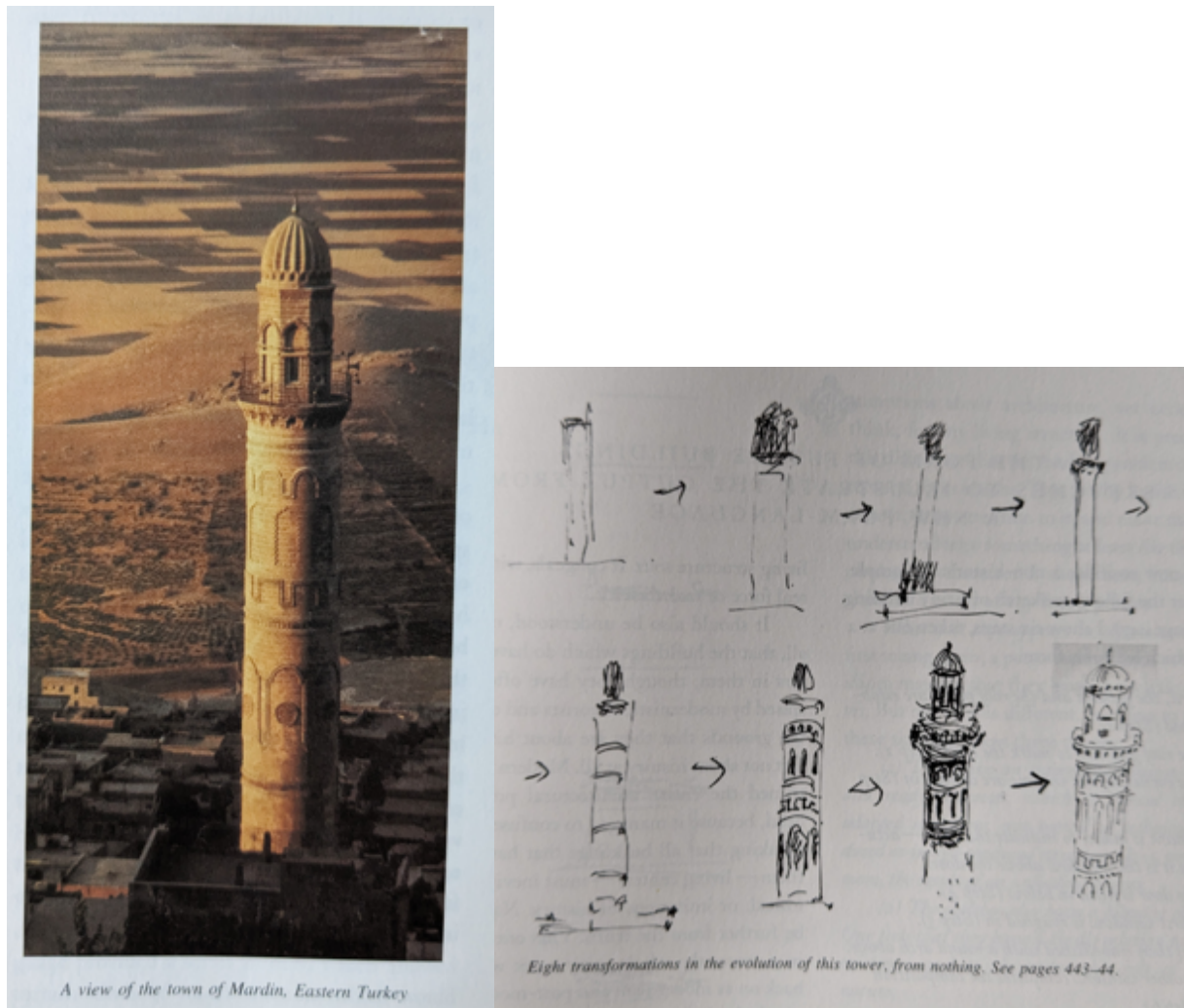
But does this give the avant-garde architect or artist unlimited expression, while placing those who share a form language into a finite enclosure? On the contrary: for Alexander, who understands language to be (following Chomsky)⁵⁷⁴ integrally *transformational*, a “legitimate sentence” or phrase is one that can be “derived by successive transformations”—that is, for a language to be properly a language, a simple phrase or “string” must have the potential to be gradually elaborated “by successive transformations, until we get a completely differentiated structure, by substitution, inversion, concatenation, etc.”⁵⁷⁵ “In a form language for architecture, by analogy, we would then need a system of transformations which is able, gradually, to differentiate a previously undifferentiated context, giving it more and more structure, until finally it

⁵⁷³ TNO 2:434.

⁵⁷⁴ TNO 2:434.

⁵⁷⁵ TNO 2:442–43.

becomes a completed building for that context.”⁵⁷⁶ The avant-garde artist has unlimited expression only if we see the infinite as oblivion and only if we understand expression as something which does not communicate. What Alexander’s form language perceives, on the other hand, is a (communicating) coherency already present in every context, an infinity enfolded in the potencies of every particular relationship within that context.



Tower in Mardin, Eastern Turkey & Alexander’s speculative sketch of unfolding transformations in its development (2:444-445)

⁵⁷⁶ TNO 2:443.

Thus a building that “comes as output from such a language—if the language is properly applied—can have life.”⁵⁷⁷ For the sake of clarity, Alexander imagines this language as applied to the erection of a tower, in which he uses, for the sake of ease, one in the town of Mardin, Eastern Turkey (see photo above). While the historical period is always an important part of the architectural context, Alexander brackets out historical considerations to simplify how the form language of the fifteen properties can get us from one side of the process to the other:

We may see how this tower was conceived if we imagine a series of transformations, starting *only* with the general idea of a tower (a tall, thin, stick-like building). Let us consider what happens if this undifferentiated stick idea is transformed by a succession of transformations based on the fifteen properties. (1) First, we give the “stick” a top—this is the *boundary* transformation. (2) Next we give it a base—another boundary transformation. (3) The shaft is not given good shape (by the *strong-center* and *good shape* transformations). (4) The ensuing shaft is now transformed by a series of horizontal bans or belts—the *alternating repetition* transformation. (5) We now introduce elements—into these belts. They differ from belt to belt—that is the most important aspect—and is created by the *contrast* transformation. (6) We now introduce living centers into one of the belts—a series of arches. This is the *levels-of-scale* transformation, acting together with *strong-centers*. (7) We also pay attention to the

⁵⁷⁷ TNO 2:444.

graded series of elements from top to bottom, in the different width of the belts. This is produced by the gradients transformation. (8) We make sure that each element introduced within the belts is locally symmetrical—this is produced by the action of the *local symmetries* transformation. (9) We also place the elements—arches—in such a way that the space between the arches is as strong as the arches themselves—the action of the *positive-space* transformation. (10) As we introduce elements in further bands, we maintain a general similarity of form—applying the *echoes* transformation. (11) We elaborate the top of the tower, with ribs, (the *alternating-repetition* transformation) and with a beautiful pregnant shape (the *good-shape* transformation). (12) To elaborate it further, we give the top a balcony that projects out into the air around the tower (the *deep-interlock* transformation). (13) Again and again and again, we apply the *local-symmetries* transformation, the *positive-space* transformation, and the *alternating repetition* transformations. (14) Repeated use of these transformations, and little else, has created the tower.... It must be noted that the production of the tower as a living center, is caused, not by the historical period, or by any particular style, but primarily by the repeated application of these very general transformations.⁵⁷⁸

Again, historical context of the tower is bracketed; its architect likely worked within an (explicit or implicit) form language that was not identical to the one Alexander proposes. However, insofar as Alexander seeks to distil a “timeless way of building” common to all traditional societies, his form language seeks to name certain perennial intuitions that

⁵⁷⁸ TNO 2:445.

would have guided the work of a traditional builder, whatever his form language.⁵⁷⁹ In just such a way, Alexander's fifteen properties may be understood as exhaustive in terms of a language which guides our process but infinitely combinatorial in the reality we apply them to. In the fifteen properties, therefore, we do not have a determining geometry so much as we have a potentially exhaustive vocabulary of characteristics that ensure a geometry of wholeness and thus relationality between centers.

7.3 Telos: *For Alexander, Is the "Effortless Tendency" Toward Wholeness in Natural Objects Teleological or Mechanical?*

But while we might have an exhaustive vocabulary which composes our form language (and there is no reason to suppose Alexander would be resistant to suggestions of further properties insofar as they offer us new and deeper expressions of *relations* between centers), the discernment which allows us to always seek and nurture an endlessly fecund whole remains tied to a governing point outside that language—namely, the measure of the self whose deepest contemplative immanence is also an ecstatic leap outward. The structures of language do not contain and limit us but rather ensure novel differentiations where language is properly instrumentalized within the discernment of the creative act. In other words, the language which moves and shapes human creativity is instrumentalized toward a final cause. It is in this superior principle, above language, that wholeness is sustained—a wholeness which, in the human being, Alexander calls love. However, while

⁵⁷⁹ To counter accusations that he seeks a return to an anachronistic style, Alexander also applies his form language to *Masks and Faces* (James Ensor's very modern 1927 painting), to intuitions that move not merely the traditional but also the process of any great work of art. *TNO* 2:454.

we may apply this teleological principle (that is also an anamnetic principle in that our movement *forward* is always a metaphysical memory that *re-collects* our origins) to the human creative endeavour, can we likewise apply it to the production of natural forms? Do they, too, *desire* or *wish* for wholeness within subjectivities that seek this same measure? The fifteen properties as ontologically true, in nature as much as in artifice, turn on this issue—for if there is no common teleological principle between them there is then no reason not to reduce these so-called metaphysical reflections of the self to a subjectivist relativism (in which nature is selected somewhat arbitrarily as our model for beauty in the built environment) or neurological isomorphism (in which shared physical and/or biological structures of nature manifest in the aesthetic selections of neurological activity, explaining these attractions). Yet, it is upon this latter nominal course that Alexander appears to place us when, early in volume two, he describes the activity of the fifteen properties in nature.

Following a description of the properties and how they form, transform, or unfold wholeness in nature—in the development of a mouse foot, the angiosperm seed, soup bubbles, elm tree branches, the end of a bone, snowflakes—Alexander distinguishes these laws from other physical laws such as gravity. Unlike gravity—a law which “is not temperamental”—the law that produces living structure (explicable by the relational categories of the fifteen properties) appears “different.”⁵⁸⁰ Nevertheless, in spite of breakdown—that is, disruptions and fragmentations of wholeness—there “*appears to be* a consistent thrust toward order[,]... a process in which the fifteen properties are appearing

⁵⁸⁰ TNO 2:45.

more and more strongly[,]... [in which] centers are getting created and strengthened.”⁵⁸¹

However, Alexander appears to administer a hard and sobering blow to the metaphysical argument he seems to develop in volumes one and four, through his accounting for this “thrust”:

Is it possible to think about all these cases [of natural form] in a way which is fundamentally the same? I believe it is. Underlying all these cases there is a geometrical principle, reminiscent of the principle of least action, but more general. This principle may be formulated as follows: *the evolution of any natural system is governed by transformations of the mathematical wholeness and by a tendency, inherent in these transformations, for the whole to unfold in a particular direction....*

In more detail, I postulate that every natural system has a disposition, a tendency caused by the most simple way forward for the system to move in the direction which preserves wholeness. I do not mean that it preserves wholeness in some pious emotional sense, nor that it “wishes” to preserve wholeness.

And again he states,

It is, in character, somewhat like the principle of least action, except that it is purely geometrical in character, not arithmetical or energy-based. It explains the mechanical cases because its effect on systems is almost the same as the law of

⁵⁸¹ TNO 2:45.

least action. It is capable of explaining the cases covered by non-linear dynamics, because it introduces something like a geometric attractor into the dynamical systems.⁵⁸²

This creates an entirely fresh perspective, he argues, “which can explain the emergence of living structure, without our having to resort to a teleological ‘urge for life.’”⁵⁸³ No “complex teleological explanation” required.⁵⁸⁴

It is, however, unclear here how this thrust moves us out of the realm of the mechanical; for anything, even a “geometric attractor” (however we conceive of its impetus) would still need to be reducible to the material parts, unless our attractor is an idealist premise *prior* to the material—and therefore, a teleological premise. This materialist (and thus determinative/mechanistic) explanation seems at odds with Alexander’s later assertions of matter as living (in his “modified physics” of volume four). One approach would be to shrug these conclusions off and to seek to interpret this ostensible equivocation in light of the fourth volume, assuming that volume four better summarizes his understandings than does this brief deviation in the second volume. In a last-ditch effort for overall coherence in Alexander’s argument, this would mark a fair approach, but I think that it too quickly flees from a greater challenge that Alexander poses to us. This challenge may be perhaps unwitting, but it is not untrue of his ultimate convictions—where, for instance, he claims that fractal geometry (i.e., geometric

⁵⁸² TNO 2:46.

⁵⁸³ TNO 2:46.

⁵⁸⁴ TNO 2:54.

attractors) cannot solve the philosophical difficulties that beauty or wholeness poses. If his work does not find us the answers, it offers us the right poles between which we must strive to find a synthesis; for not soon after rejecting “complex” teleological explanations, he concludes,

The principle of unfolding wholeness adds something which complements and deepens—may occasionally even replace—our understanding of known laws. That may be because it is deeper, or a more telling formulation, or because it covers cases that are not easily understood without it. Or it goes deeper, and may be said to be something lying deeper below the surface, under all laws of physics, at the same time that it is consistent with the expression and operation of known physical and biological laws.⁵⁸⁵

To seek a cause that is “under” (i.e., beyond) physical explanation, but simultaneously “consistent with [it],” is to speak, of course, of a *telos*, an operation or orientation beyond physical description, intrinsically guiding mechanical activity. Alexander’s eschewal of teleology appears more an eschewal of specific kinds of teleology than of the concept overall—an eschewal of, for instance, a teleology that suggests a sort of occasionalism in natural forms, an extrinsic divine power moving in to fill the gaps (the sort of spiritual cause to which Newton would surrender to explain motion at a distance), or of a crude panpsychism wherein everything from rocks to clouds consciously choose

⁵⁸⁵ TNO 2:48.

their course. Nor does he call these forces “love” in any vague spiritual sense, or in any sense like what seems to inform intentional human action.⁵⁸⁶ In his staunch commitment to empirical evidence, Alexander can find nothing in experience to suggest either spiritual intervention or consciousness in inanimate life,⁵⁸⁷ and yet he cannot but observe that a “dynamic tendency” remains (a phrase he employs throughout the second volume). By this tendency, Alexander implies a passivity, even perhaps a non-activity, wherein natural forms move toward wholeness or beauty “without effort.”

For every natural system which evolves, we see the fifteen properties developing as the trace of the system’s evolution, a product of the field of centers’ gradual intensification and of the action of the fifteen transformations. So the fifteen properties define not only the different ways a system can be whole, statically, but—as transformations—the various ways in which any system evolves naturally—*provided that it is allowed to become whole naturally, under the gradual rubbing together of its processes*. In any case, nature has fifteen properties, and has the field of centers in it, because, at least for the most part, it demonstrates an undisturbed unfolding process in which each wholeness gives way to a next wholeness that is consistent with the previous one.... This, I believe, is an essential model which teaches us the real meaning of living structure, and which shows us these phenomena as naturally existing phenomena of beauty which will occur

⁵⁸⁶ TNO 2:104.

⁵⁸⁷ Following Kenji Imanishi, I employ the term “inanimate life” to emphasize, along with Alexander, life as a category that transcends the animate and inanimate world as being their source and origin.

without effort *in any world where wholeness is allowed to unfold smoothly and truthfully, without disturbing previously existing centers*. Once this is clear, we shall then have a vision of the world in which the world itself—*all of it*—animals, plants, mountains, rivers, buildings, roads, terraces, rooms, and windows—is part of a single system and a single way of understanding.⁵⁸⁸

Unlike occasionalism or panpsychism, both of which would require the “effort” of an agent, this teleological tendency is effortless—the course which natural forms take if unimpeded. In other words, all natural form is dynamically oriented toward perfection, yet self-evidently, no natural form is perfect in being susceptible to impediment. But a perfection is nevertheless present in this tendency, and one, moreover, which does not cancel out love as principle.

We might recall that we have crossed this (or similar) terrain before. In Maine de Biran and Ravaisson, we discussed a nonmechanical tendency in nature that, for the former, amounted to a *sens intime*—a will which comes to be against resistance (but which ultimately cannot be applied to all entities without a justification by analogy). For the latter, on the other hand, this—in language identical to Alexander’s—“effortless tendency” is mobilized not by resistance but by a desire correlated to what is beyond will and before resistance. For Ravaisson, this is love, something which we desire while “feel[ing] ourselves, at bottom, already united with it.”⁵⁸⁹ As stated in our conclusion to chapter

⁵⁸⁸ TNO 2:83.

⁵⁸⁹ Ravaisson, cited in Sinclair (2016), 9.

three, Ravaisson, on these terms, offers the most philosophically coherent account of the will. While we may argue that Alexander falls in step with this theory, there are further nuances to consider, and perhaps further refinements to our true empirical experience of plants and rocks (etc.) that we must account for before accepting anything like Ravaisson's conclusion.

7.4 *The Telos of Natural Objects: How the Distinction Between the Divine and Creaturely Sophia Can Assist Our Understanding in Alexander's Supposition of an "Effortless Tendency"*

Attempting to maneuver around the dilemma of Deism on the one side (in which an utterly non-intervening God compels us toward the conclusion of an utterly mechanical nature—e.g., the proverbial wind-up clock) and pantheism, occasionalism, or panpsychism on the other (i.e., super-imposed agencies of mind or spirit hidden in natural operations), “plastic nature” was a concept that sought to offer a third option—one which would stay true to how we know objects (as things that do not know themselves) while attempting to explain natural form in a manner that mechanistic philosophies failed to perform.

The Cambridge Platonist Ralph Cudworth resists the view that banishes “all mental, and consequently divine causality quite out of the world; and [makes] the whole world to be nothing else but a heap of dust, fortuitously agitated, or a dead and cadaverous thing, that hath no signatures of mind or understanding, counsel and wisdom at all upon it; nor indeed any vitality acting in it.”⁵⁹⁰ In his theory of plastic nature, he aims to assert, as Alison

⁵⁹⁰ Cudworth (1995), 217.

Milbank states, “the need for a mediation between God and nature that would not collapse the world of phenomena into God... and which would assert the reality of spiritual non-material beings to be necessary.”⁵⁹¹ To find a principle that could capture or describe divine wisdom in her full range of diversity, Cudworth hypothesizes a “plastic nature.” This theory sought to explain both multiplicity (so as not to collapse the many into the one), as for instance in “the particular plastic powers in the souls of animals”⁵⁹² (i.e., a sort of “vegetative soul”),⁵⁹³ as well as in a single plastic nature “by which all plants and vegetables, continuous with it, may be differently formed, according to their different seeds, as also minerals and other bodies framed, and whatsoever else is above the power of fortuitous mechanism.”⁵⁹⁴ “This is very significant,” says Milbank,

because it allows him to argue for the activity of plastic nature in the mineral creation, so that nothing is outside the vitality and wisdom of God. It also allows unity within the creation as “all things thus... conspire everywhere, and agree together into one harmony,” although this harmony overall can incorporate subordinate discord between different parts of creation, comparable to the unity of a dramatic poem.⁵⁹⁵

Much like Henry More’s proposal of a “hylarchic principle” (in which immaterial beings hierarchically participate and move creation), Cudworth proposes a vision in which spirit is

⁵⁹¹ Milbank, “The Spirit of Nature in Natural Philosophy and Literature from the Cambridge Platonists to Coleridge,” (unpublished).

⁵⁹² Cudworth (1995), 271.

⁵⁹³ Milbank, “Spirit of Nature.”

⁵⁹⁴ Cudworth (1995), 271.

⁵⁹⁵ Milbank, “Spirit of Nature.”

integral to nature. Yet the difficulty in these hypotheses lies in the amount of rationality one can accord nature's agency (and whether, of course, we may even call it agency) and thus in what particular way the one and the many interact. To suppose that a rational, spiritual nature moves an irrational, intrinsically non-vital material nature is to still call nature dead; to say, as in Thomas Vaughn's attempted advance on this theory, that the spirit operates like an artist in, for instance, a rose, assigning it shape and proportion, runs us into trouble when we observe that roses wilt, or become diseased and malformed. There is a perfection we note in things, as well as a fallenness. The natural world can be described as dead; in Thomas Seaton's words,

Why is all Nature dumb but we?
A base, ungrateful Train,
Whose Tongue is rarely form'd to praise
And therefore formed in vain.

Or it can be described as participating in an abundant, liturgical life, as in "The Bird" by Henry Vaughn (Thomas's brother):

All things that be, praise him; and had
Their lesson taught them, when first made.
So hills and valleys into singing break,
And tho' poor stones have neither speech nor tongue,
While active winds and streams both run and speak,

Yet stones are deep in admiration.⁵⁹⁶

Both observations are, in some manner, true, yet only one can be the actual case. Our problem in this is to understand how a rational agency (or a principle of *logos*) is alive in every object, while acknowledging that objects do not (like persons) stand simultaneously within and outside themselves so as to know themselves in a self-reflective, personal sense.⁵⁹⁷ But if these are not alive as humans are alive, how exactly are nonhuman natural forms beyond mechanism? How exactly are they personal? Where is the freedom beyond the realm of necessity? What is this “tendency”? This “effortless” motion? How exactly (as Henry Vaughn would argue against Henry More) are natural forms “perswade to work... for the *End* [that cannot be] seen”? For in not being seen, “the *Agent* can not *desire* it, and by *Consequence* it can be no *Impulsive Cause*, as the *Peripatetics* would have it.”⁵⁹⁸

To attain a cogent understanding of what lies beneath physics but remains consistent and intrinsic to objects (as Alexander puts it), we must satisfy at least one side of the quandary: how can a natural form appear rational while not (yet) being a person or irrational while following an effortless teleological impulse toward wholeness and beauty? Using Bulgakov’s sophiology, consistent with our thesis and our reading of Alexander’s modified physics so far, we may answer this in the following way: For nature to be called *living*, we must encounter in it an image of trinitarian life—that is, Wisdom, or Sophia—otherwise described as self-emptying love; this is a *kenosis* that supposes an epectasy: a

⁵⁹⁶ Vaughn (1983), 261, quoted in Milbank, “Spirit of Nature.” For Seaton’s text, see Mounsey (2001), 211–12.

⁵⁹⁷ On these themes in personalism, see Walsh (2015), ch.1.

⁵⁹⁸ Green (1962), 105.

desire for desire, a love whose fulfilment is simultaneously a love that is never entirely fulfilled, continually evolving, a “stretching out” (*epektasis*) to the things lying ahead.⁵⁹⁹

Divine Sophia empties herself into creation continually in each instant so that she stands above it (in analogical relationship to it) while paradoxically holding nothing in reserve. Creation is thus sophianic in being the result of this self-emptying—not a vacant or empty mixture of time and space and matter but a true created wisdom: creaturely Sophia. All natural forms communicate her; all participate thus in a mental life, a life in *Nous*, or in the Divine Sophia that is the creaturely Sophia’s foundation. However, in spite of a potency to be known, creaturely Sophia does not *know*; natural forms do not consciously move toward an end. Whereas the Divine Sophia is the eternal and eternally predestined all-unity in which all union and communion occur,⁶⁰⁰ the creaturely Sophia loses (in the name of creaturely freedom, itself a bestowal of Sophia) sight of the final cause—that end which the Divine Sophia eternally is. Creaturely Sophia is, one might say, efficient cause blind to the final cause that stands at the source and origin of all natural form. However, while the creaturely Sophia is free of all predeterminism (again, in the wisdom of freedom), the natural forms in which she manifests herself diversely never lose their predestination in the “All in All.” The Divine Sophia always stands as each object’s eternal root and therefore their entelechy.⁶⁰¹ Forged in the fire of Divine Sophia, nothing ever completely loses its spark—form being the communication (the spark) of this fire. In this way, no matter how

⁵⁹⁹ Gregory of Nyssa understands the term to denote an eternal evolution of happiness such that the happiness (or eternity) we desire is already, in part, possessed in the desire itself. Concomitantly, it speaks to the “incompleteness” of eternity insofar as “temporality continues in the form of an eternal *epectasis*.” Cunningham (2002), 265. See, too, Petcu (2017).

⁶⁰⁰ Bulgakov (2008), 163.

⁶⁰¹ Bulgakov (2008), 161, 163.

weak the flame, so long as it is, it burns, or longs, for the divine nature from which it springs. “Thirst is already possession,” as Bulgakov states.⁶⁰² A natural form may not *know* or *wish* or *desire* an end in not being able to consciously pursue it, but its effortless tendency toward wholeness (that a tree grows into a tree, or a flower a flower, bearing all the relational traits of the fifteen properties) is nevertheless like a latent desire, blind to its *telos* while simultaneously “possessing” this origin and end in its thirst for return. Thus if a form communicates wholeness, which a form does in order to be known, it possesses a spark; it participates in the *epectasis* that Sophia describes but, this, as only a sort of hypotaxic complement to trinitarian love: the spark, as latent, is only ever a desire for desire, a hypostatizability or longing to be personalized.⁶⁰³ This, however, is not characteristic of fallenness or privation but of freedom and love. It is itself an intended gift of Wisdom: the free, non-predeterminate *image* of the Divine Sophia in the creaturely Sophia which enables all of creation’s becoming. It is in the endless potencies of free nature that free humanity cultivates *epektasis*, luring out the life of the world in a movement toward pan-theosis.

⁶⁰² Bulgakov (2008), 158.

⁶⁰³ To quote again (see ch. 4.3): “What seemed like life, the life which then caused an I-like reaction in me, was rather... the submerged I-like presence in the place itself, which was arising, as if from the sea... [communicating] with the I-like thing in me.” *TNO* 4:66.

7.5 **Matter Asleep:** *Resolving Questions of Natural Teleology as Potential Mind, or Mind Asleep, Oriented Toward Awakening in Human Creative Encounter*

Our *telos* then, as we suppose it in natural forms, is one of a precarious balance of paradox, of coinciding opposites, of a divine absence that nevertheless remains a presence—of a thirst for an absent desire that heralds a present-already possession of that desire; this paradox appears to be the permit for complementarities to freely interact so that the love (*epectasis*) at the source of all action may increase and acknowledge itself. However, this is not an entirely difficult paradox to grasp, nor is it beyond thinking, for it gives itself as a phenomenon of nature, one with which we are intimately familiar well before it is exercised as metaphor: sleep. As Hans Jonas states, “If we now assert... that matter from the very beginning is mind asleep, so we must immediately add that the really first cause, the creative cause, of mind asleep can only be mind awake. From potential mind we must infer actual mind.”⁶⁰⁴ A tree dreams itself into wholeness, imperfectly and toward an unseen horizon, but insofar as it is a tree having a dream, *it* itself (the latent “I” or “person-stuff”) is its principle. It cannot but become a tree because it—the dreaming protagonist of its dream—is a tree, a latent “I,” but the rational agent is nevertheless in an irrational state (of potential rationality), being utterly what it is but having yet to awaken to the horizon of its identity.

Sleep, of course, supposes a second dimension to the teleological course of natural forms, for “potential mind,” or potential I-stuff, assumes an actual awakening, an awakening to mind, or the I, which itself assumes an awakening *force*: what Bulgakov

⁶⁰⁴ Jonas (1996), 181.

describes as the created hypostasis of the human person bringing into increased hypostatization what is hypostatizable. But we must not forget that the human person may himself be asleep before awakening to his own hypostatic nature, made clear to him only in this trinitarian (or sophianic) dimension of love and attention that hypostatization supposes, and which grace stirs him toward. God thus leaves “inviolable [the world’s] autonomous being.”⁶⁰⁵ Yet insofar as it is too “unstable in itself... to dispense with his assistance,” his providential activity arrives through the human person in grace.⁶⁰⁶ Herein, man is “acted upon by divine thought and will, thereby bringing his will and activity into conformity with God’s thought,” to help the world “in its becoming, in which it is not yet finished.”⁶⁰⁷

A doctrine of pan-theosis may be more than one might ask from an architectural theorist, and Alexander does at times seem to diverge from the suggestion of this end; he states, for instance, that the “phenomenon of human consciousness may be one of the stronger kinds of connection between matter and the I-like ground,” making consciousness only another sort of connection to this ground rather than the principle connection—a comment that may very well return him to the Cartesian paradigm he opposes.⁶⁰⁸ This, however, would be an undue criticism; Alexander’s theory of life is one which intimates throughout the work an *awakening of matter*, a “submerged I-like presence... arising, as if from the sea.”⁶⁰⁹ The “self or I is woken up whenever living

⁶⁰⁵ Bulgakov (2008), 160.

⁶⁰⁶ Ibid.

⁶⁰⁷ Ibid., 160–61.

⁶⁰⁸ TNO 4:328.

⁶⁰⁹ TNO 4:66.

structure appears in matter.” But this suggestion, too, of course, need not reside in an ultimate deification of the world in and through the human being; heaven, as it were, may be here, now, and the value of life something which we simply protect and sustain and return to natural forms where they have fallen astray. This concern, however, may be only a distraction, one that takes us back to Caldecott’s earlier assertion of life as an eschatological transcendental. We have confounded this notion not by arguing that life and personality unfold in their full actuality here and now but by the argument that the eschaton, in being eternal, is always already present, so that the eschaton (that which is, after all, life itself) is always present even as latent. Only for this reason may we see beyond “dumb,” “ungrateful” nature, in Seaton’s words, toward Vaughn’s “singing... hills and valleys.”⁶¹⁰ Theosis, therefore, upon this contemplative perception, is not an exclusive point in future time but is, rather, a convergence with our understanding of life and eschaton—an accrual of awakening moments in the eternality of the divine being, always present yet veiled to eyes adrift and fallen.

This does not mean that every moment of attention and love in creation is outsourced, as it were, to an eternal storehouse beyond time’s realm. Becoming may only occur where eternity is made present in time, and Alexander’s emphasis on unfolding wholeness and asymmetrical time strongly suggests an anticipation of all potentiality as moving toward full life; that movement here would then be no less than the *eros* or actuality which every natural form dreams beneath each mechanical enterprise. In the time and unfolding of Alexander’s physics, space is “some sort of pliable material, *which*

⁶¹⁰ See footnote 601 above.

itself comes to life more and more, as the field of centers gets more and more developed.... It is not something which has a fixed and definite nature like a mechanism. It is something whose quality evolves locally, gets better and better.... It actually changes in its nature as a substance as the field of centers gets more and more developed in it."⁶¹¹

7.6 Conclusion

In this section, we have sought to articulate Alexander's fifteen properties, first in themselves, and then, more generally, as a form language; from there we made a critical attempt to apply his practical concerns around teleology toward a teleological metaphysics that could satisfy these concerns while bringing greater coherency to his overall concern of "life" in his "modified physics." We have thus covered Alexander's contribution to our understanding of the formal features of the physical world. Our task in the following chapter, will be to look at form even more generally—as a supposed abstraction that presents an obstacle, or stumbling block, to Alexander's students and colleagues. We will see that in Alexander's inverted reality—where life has precedence over material-mechanical phenomena—form ultimately relates the most concrete item of experience, implicating both mind and heart in our embodied experience of the world.

⁶¹¹ TNO 4:328.

8. THE GEOMETRY OF FEELING

“Mathematics only extends to knowledge of quantities, and is hardly concerned with quality, which is the beauty of the works of nature and the ornament of the world.”

Although mathematics considers order, proportion and size, which are the elements of beauty, it does not consider beauty itself, and, in contrast, beauty is the real reason for which art is concerned with the nature of size, order and proportion.

—Ravaisson, quoting Leonardo da Vinci

8.1 Introduction

In this chapter, we return to Christopher Alexander’s understanding of form. In the fifteen properties, we saw what makes form “living”—or indeed, that “life” itself is bound to form (or form actualizes life). That which lacks these properties—that which lacks not-separateness, unity, intrinsic relationship within itself—falls away from the wisdom that abides in the real. Beauty, as a result, decreases. We have, therefore, looked at form in its material manifestation and sought an apprehension of what teleology must mean as the soul of the non-animate and nonhuman. However, we have yet to take up a close study of form as an eternal actuality, the deeper life in which all life (animate or non-animate) participates. Are these abstract and dangerous geometries that we lay upon our experienced reality? Do they suggest an eternal stasis over against a dynamic, feeling world? Or can we suppose dynamism and feeling as within eternity? In the following, we will answer these questions, questions which have central import in Alexandrian studies—for what forbids many, and particularly those closest to Alexander, from taking his cosmos

wholesale pertains to certain presuppositions in one's understanding of a metaphysics of form. I will use thinkers from Michel Henry to Bulgakov, Ravaisson to Walt Whitman, as well as Plato to develop a supple understanding of eternal forms, one that grounds us in an Alexandrian metaphysics in which no cleavage can persist between geometry and feeling, knowledge and love.

8.2 What Sort of Empiricism? *Alexander's Radical, Affect-Centered Geometry (A Response to David Week's Criticisms)*

In volume 4, Alexander spends a short chapter taking us through a concrete wall he erects in California, a wall “fatter, and lower, and heavier” than “many walls we experience today.”⁶¹² How can such a simple thing as a wall communicate living centers? How can a wall reflect the self, or the I—“that vastness, that something in the universe, as large as the universe itself, from which living structure draws life?”⁶¹³ Alexander takes us through his simple method, not unlike what we have already described in earlier chapters, in which different possibilities are compared:

Which wall makes you feel more whole, in which the world feels more whole, which makes you more connected to the world, which... would make a better gift for God? All of these questions allow you to form a judgement and to decide whether A or B is more like the eternal I. You choose from *that* pair—say you choose A. Then you try

⁶¹² TNO 4:130.

⁶¹³ TNO 4:74.

another pair, A and C. Again you ask these questions.... But one has to go on further, finer and finer, refining and refining. You compare C with F, something you had not thought of before, a minor variation of height and thickness. And again you ask of F and C, Which is the one which is a better picture of your eternal self? Again, C remains the stronger of the two. By now you have perhaps concluded that you cannot find a G, or an H which does better than the C. So the decision to make C is settled.⁶¹⁴

Alexander likens this process to tracking a haunting melody heard during his time in India. About this experience, he writes,

In the village where I lived, at night especially, some sounds travel a long way. (The country, when I was living there, was less industrial, so in general it was more quiet.) I remember fields at night, and once hearing in the very far distance, very, very far off, a flute playing in the night. You could barely pick out the strains of that flute music. Twilight time; and there I was just listening, and trying to, trying to get that haunting melody; I could just hear it, and then I could just partially hear it. It was way, way off in the distance.

Searching for the being [that center which conforms to the I and thus reveals life] in a thing is rather like that, whether you're searching for it in a building, or in a window, even in a windowsill. I get a glimpse of something that is starting to

⁶¹⁴ *TNO* 3:131.

happen. I hear something like this haunting strange distant flute. My feeling is like the quality of hearing such a sound. Then I look at the thing that I am doing—the building, or the window—and ask myself: Is it in fact carrying that haunting sound, or not? . . .

Learning to see wholeness, or self, in a thing is not unlike the process of straining one's ears to catch that haunting tune. I look at the thing which I am making, I keep on looking at it, and slowly I begin to see a spirit in the thing.⁶¹⁵

In a window, a building, or a concrete wall, what one searches for is that oneiric and fleeting melody, the *omphalos* of the deepest self, one which supposes a reflection in which we come into a certain identity with the world—where nature knows Nature, or *logoi*, *Logos*, where I am cosmos in that I can know.⁶¹⁶ “Each word,” Bulgakov writes, “is as it were a letter or a sound of the one absolute Word.”⁶¹⁷

But it is here in which Alexander poses difficulties for the 21st century, as David Week argues in his critique of Alexander's theoretical approach. The suggestion of a method or theory of beauty which supposes a metaphysical backdrop, and thus a transcendent authority, can no longer be digested for our time, he argues—particularly

⁶¹⁵ *TNO* 3:134.

⁶¹⁶ “One cannot think anything without thinking the whole.” Lacroix (1968), 35. Every thought or action intends the infinite, as Marcel Blondel argues. I am always seeking *more* aware that I am *less*, without which there would be nothing to compel thought and action. Thus our subjectivities are not sealed but have their provenance (in every instant) beyond themselves, a beyond paradoxically within. Thought arises out of a spiritual impulse to mirror the infinite by willing the infinite. My use of “oneiric” is drawn from Gaston Bachelard's concept of “oneiric space,” “the crypt of the house we were born in,” a sort of “dream-memory” that holds us to our anamnetic source. “Inhabited space,” as he notes, “transcends geometrical space.” Bachelard (2014), 37, 47.

⁶¹⁷ Bulgakov (2020), 126.

following the phenomenological turn of (post)modernity, which has allowed us to dissolve, or safely tunnel through, grand narratives of beauty and truth. For Week, Alexander's "logical empiricism" moves us back in time, a historical regression which pictures the assertion of objective and transcendent truths by a self which cannot possibly express such knowledge. "Within logical empiricism," Week writes,

the dominant understanding of the truth of a pattern is correspondence: it somehow mirrors the "reality" "out there." But, this in turn has the following entailment: of any two reflections, one will be a better reflection than another. In other words, it suggests there is a metaphysically grounded ordering of knowledge and descriptions—superiority determined not by human beings, but determined by the world, the universe, God, the nature of things, or some other transcendent authority.⁶¹⁸

"Logical empiricism" is a particularly fuzzy term that has housed many disparate theories, understandings, and disagreements of what empiricism amounted to in the early 20th century.⁶¹⁹ For Week, it seems to mean that Alexander is attempting to objectively represent beauty within a Euclidean framework—to fit into our world of right angles and three-dimensional spaces a theoretical proposal in which beauty is reduced to a strict geometric formula. This would make Alexander a particular category of logical empiricist—

⁶¹⁸ Week (2016), 79.

⁶¹⁹ See Uebel (2020).

namely, a logical positivist, one who seeks to tie beauty to a certain static physical point or pattern in much the same way as Descartes tied the soul to the pineal gland. And indeed, Week charges Alexander as, for all his criticism of Cartesian paradigms, working with Cartesian blinders when he attempts to “define” beauty as something which can be fully captured and grasped by (and thus reducible to) “pattern language,” or his “fifteen properties.” To use Week’s illustration, Alexander, in repairing the hull of Theseus’s ship, manages to replace all the floorboards save the one he stands upon.

For Week, Alexander seeks to codify beauty in positivist fashion, a para-scientific approach that makes certain appeals to scientific evidence, but alongside these “snippets of science,” rhetorical elements are included: “suggestions, comparisons, anecdotes and even poetry.”⁶²⁰ But there is a simple counterargument to Week’s claim: Alexander is not using science merely here and there amongst other rhetorical maneuvers but rather seeks to change the way we do science altogether. By swearing off the egocentric representationalist epistemology of Descartes, Alexander offers us a way in which reality can be known in itself, a phenomenology in which poetry, and more poetic methodologies (a search for a “not-separateness,” “ambiguity,” “deep interlock,” not to mention a “quality of tears,” etc.) might act as (empirical) datum, and even correspond to geometric properties. He writes,

Might we be able to create some less mechanical, more comprehensive, picture which provides a substrate for the facts of physics as we know them *together* with

⁶²⁰ Week (2016), 82.

the more difficult facts about life in architecture and art that have been held to lie necessarily outside physics? Can we create a picture of matter which will one day become adequate to give us a world not only profound in its mechanical successes, but which also explains our nature, our agony, our relationship to matter, and the existence of the soul?⁶²¹

To understand Alexander's relationship to science, we have to understand what sort of logical empiricist he is, for it does not seem as though he is one who operates within (*pace* Week) a Euclidean space, nor one who presumes that poetry would have much to say in that space. On the contrary, where he draws points from the hard sciences, it is often from those that challenge the Euclidean model—in the slit experiment's demonstration of the strange results of quantum behaviour, for instance, which showed light waves seem to govern themselves into wholes, as if composed of a logic (*logos*) of their own, not to mention the bizarre and irreducible effect of the observer on the quanta observed. Likewise, as Alexander continuously argues, it is toward wholeness that each human being is compelled so that to understand ourselves is to understand that we, in both affect and intellect, operate within a similar relational logic, a logic which brings in poetic and mysterious elements of “the void” or “innocence,” a “haunting melody” or “tears,” as insights which help us develop these patterns. In this sense, are there not certain *positive* characteristics of a space that make it more or less beautiful? Few would put the beauty of Chartres or the Grand Canyon down to a matter of taste and opinion; and even patients in

⁶²¹ TNO 4:319.

the midst of psychosis can agree in unison that the typical early 20th century acute psychiatric ward (still around in large number) is not an aesthetic environment that meets the demands of an ailing soul (negatively proving the soul *makes objective demands on its physical environment*).

Week's mistake is that he thinks Alexander is attempting to capture beauty within a Euclidean space. But the thrust of Alexander's argument is that there is no (first-order) Euclidean space: the three finite dimensions, which the concept presumes, function well within their domain but are not sufficient for the more sophisticated understandings of the universe that, through the strange and irreducible character of quantum life, tend away from the finite and atomistic toward new theories of holism and even, in some recent moves by highly esteemed scientists, explicit suggestions of idealism.⁶²² And the deep relationality in which the world appears to be knit, suggestive of a subtending metaphysical ground, both erotic and infinite, ought to at least commend a form of logical empiricism that doesn't eschew the qualities of the fifteen properties but sees such themes as opening up a contemplative order of the soul reflected in the wider world, an order geometry serves in describing the relationships between centers that establish patterns—patterns which, repeated in another context (and thus nonidentically), help us pursue this haunting melody of the I latent in each context: for everything calls out to be more deeply loved and personalized, “each center is a kernel and spark of life in the fabric of space.”⁶²³

In Michael Mehaffy's words,

⁶²² See, for instance, Robert Lanza's Berkeleian thesis in *Biocentrism*. Lanza (2009), 18

⁶²³ *TNO* 1:438.

There seems to be something more like a continuum, from the personal to the universal. Our job as scientists is to tease this apart carefully, using rigorous scientific methods. In this respect, Alexander saw no problem whatever applying the rigor of science to subjective and qualitative phenomena. Indeed, he saw them as necessary allies in confronting the current challenge of the built environment.⁶²⁴

Week makes an effort to philosophically recontextualize Alexander's theoretical work in order to place his ideas in the phenomenological domain of the life-world so as to avoid any confused mixing of territories. The Euclidean space is left to its own self-sufficient operations, as is, likewise, the world of phenomenological encounter. In the preconceptual space of the life-world, one pursues the lambent appearance of things in language that helps that life-world come into view, even if only for a moment. It is, in other words, a land captured in rhetoric, using (poetic) language that compels us to see the world differently, to surprise us out of our tired conceptions. A rose is a rose *is a rose*. Here, Week claims, Alexander's phenomenological language finds a home. But the genre of phenomenology that Week implies falls obviously into the subjectivist register, and thus well misses the point in failing to acknowledge that Alexander's stake is with physics itself, with our conception of space and the material world. In other words, Alexander is making a statement not about the way in which things *appear* but about the way things *are*.

⁶²⁴ Mehaffy (2015), 70.

I have suggested that each living center, to the degree that it has life, reflects (for each of us) our individual self. Living centers are, in this sense, highly personal. A personal link with our own self is connected to each region of space, in that degree to which that region of the space has life or is centered. Thus, not only value becomes associated with each region of matter-space, but something personal and self-like—*feeling*—also appears in space. And this, then, of necessity, would be part of *physics*.... The idea that matter-space, matter itself, might be personal or linked to the human self *in any way at all*, is utterly different from anything in the 20th-century physicist's picture of space. Indeed, it violates the most basic attribute of space as it was conceived in the 20th century—namely, that it is (and it used to be held that it *must* be) inert, impersonal, *not* connected with the self, *remote* from the self, and without any personal quality that *could* link it to the self.... Here, for the first time, we are entering the possibility of a view of matter which, in its extent, character, and quality, is personal and self-like in its nature. This is a new kind of matter-space altogether. Something very new and something which, if it ever becomes widely accepted as true, will revolutionize our picture of the universe.⁶²⁵

If his hypotheses are true that the material world carries *feeling*, or that it is linked to us *in any way at all*, then Alexander does not make a category error when he applies his theories to the study of *physics*. Far from it. Like the phenomenologist Michel Henry, who too makes “life” a central thematic concern, phenomenology is not an eschewal of

⁶²⁵ TNO 4:326.

metaphysics but another register of it, one which bears upon the actual beingness of things. Things are not just the occasion of a hidden order set behind them but reveal order in appearance or form. “As the matter-space becomes organized,” states Alexander, “it becomes *more and more* strongly linked to this ultimate ground which lies beneath it, or inside it, or throughout it. With this conception, we arrive at something entirely different from present conceptions, something really weird... an entirely new conception of the material universe.”⁶²⁶ Space can be, as Alexander persistently argues, played with to bring out this order; things resonate with this order, participate in this order, come further to life when we match them with our I. The suggestion here is that Alexander is not doing just a science, or just a mathematics, or just a physics, or just a phenomenology, but that as a metaphysician, he is implicating them all.

The revelation, of course, cannot be that matter, or the material world, has extra magical atoms within it, or that principles like gravity don’t do any job in explaining things—but that matter has life, a life that we can read and observe and that, to move in the opposite direction from Descartes (and thus with measured trust in *feeling*), we are the readers and observers of this because this life is reflected in us. And even more than this: the revelation is we fail to see what we are, what our purpose is, when we neglect to see the world in just this way. Our science or (applied) mathematics must acknowledge that each thing in this world speaks to us—a disposition that, moving inductively, cannot help but note certain characteristics or geometric properties, not properties that are proposed by blueprint (and therefore repeatable) but ones which may attract and guide us in

⁶²⁶ TNO 4:326.

obedience with the law of unfolding wholes, attending to the integrity possessed by each center that in turn cultivates our own.

To understand what matter, or the material world is, we must drop the “prejudice of physics which tells us that all things are equally alive and real.”⁶²⁷ This is the space of neutral Euclidean geometry in which there is no becoming, in which we never ask whether or not a thing—a cell, a person, or a cloud—is being true to itself, true to its own nature. The material world communicates an order, one which may increase or decrease; it doesn’t stand before us neutrally. In this light, Alexander’s logical empiricism is very much a “religious empiricism,” literally a re-ligamenting, or re-connecting, an engagement with the mysteries and enchantments of being in order to return creation and ourselves back to the center, back into what we are.⁶²⁸

8.3 The Resonance of Things: *The Intimate Realism* Alexander’s “Abstract” Metaphysics Proposes (A Response to Michael Mehaffy’s Criticisms)

We have therefore framed Alexander’s approach to space, a geometry that implies feeling, in contrast to a geometry that abstracts from feeling, or a geometry that achieves affect (from its formal beauty) only in a particular life-world. Alexander aims to amend our relationship with space as one in which our first relationship to the physical world does not transpire in a mathematical quantification of space but a conformation of the self to all the

⁶²⁷ Alexander (1979), ch. 2.

⁶²⁸ Bulgakov uses the term “religious empiricism” in *The Bride of the Lamb*, though does not apply any strict definition. We might, however, align it with the radical empiricism of William James: “To be radical, an empiricism must neither admit into its constructions any element that is not directly experienced, nor exclude from them any element that is directly experienced.” James (1912), 42.

many dynamic points in space that reveal a common, analogous life between knower and known—the theatre of creativity we must presume in the processes of generative building, or the mysterious sophianic transformations that speak to our constant desire to deepen, intensify, and more fully reveal this *truth* which manifests this conformation between self and world.⁶²⁹

In this section, now, I want to compare the thought of Christopher Alexander and that of the phenomenologist Michel Henry, both of whom take phenomenology out of its life-world silo (at least as Week understands the life-world) and find that our experience of things, in the *epoche* of the phenomenological mode, goes deeper than appearance. For Henry, visibility can't help but communicate invisible depth, else there would be no knowing, no recognition, of any appearance at all.

I shape the discussion around the theme of abstraction, one which lends itself well to Henry, particularly for his work on the abstract art of Kandinsky, but also, importantly, because it responds to a criticism made of Alexander's theoretical work—namely, that the single diminishment in the latter's cogency rests on a mistaken reliance upon staid Platonic ideals. In one instance, we read this in Week's critique, that any teleological structure, which any formal cause supposes, ultimately undoes the contextual unfolding of a whole: in our obedience to a transcendent authority (understood as an abstraction), we cannot sufficiently act toward the here and now of the physical world before us. However, we read this too in the work of Michael Mehaffy, a closer reader of Alexander's

⁶²⁹ Catherine Pickstock argues that truth has been reduced to an analytical (rather than ontological) category in which objects have no “shared affinity” with subjects. “Without truth in things as an expression of things, or truth in the mind as a fulfilment of truth, it seems that there can be no truth.” Pickstock (2020), xi–xii.

work. But unlike Week, Mehaffy does not critique this element as harmful to Alexander's system of thought. On the contrary, Mehaffy sees Alexander's model not only as eminently applicable to design and building but as an explanation for all natural, organic life, and thus rooted in the physical laws of reality. While Mehaffy does not harshly eschew the metaphysical ground, he does gently subtract it as ultimately unnecessary to the model. "It is not necessary to posit a transcendental realm of the mind, or of ideal forms, to explain what is going on in a plausible way. Such a realm may or may not exist; it is simply unnecessary to account for it from this perspective on things."⁶³⁰ Or, "There is no real place for fundamental essence to enter the picture, nor any need for it to: the universe is perfectly comprehensible as an endless compositional structure. But this composition is not merely additive, but, in an important sense, transformative and inter-relational."⁶³¹ Or again, "The mathematical laws and categories of order are not residing in an unseen realm, but instead, are generated simpler structures that arise from the interaction of other more complex structures."⁶³² Transcendent explanations are superfluous for Mehaffy. Nor need we reach outside these compositions to posit the mirroring effect of the measure of the self, for "the structures of the brain... have partial isomorphic correspondences with the structures of reality."⁶³³

⁶³⁰ Mehaffy (2015), 107.

⁶³¹ Ibid.

⁶³² Ibid., 113.

⁶³³ Mehaffy (2015), 108. In more detail: "It is possible to make a perfectly useful description of the structure of the brain, and its relation to various problem-solving and representative functions of the animal (that is, ourselves). We can note interesting and useful structural relationships and isomorphic properties, without respect to any metaphysical or ontological assumptions" (107). Foreseeing such a criticism, Alexander responds: "If I wanted to give a more mechanistic account of the picture, trying to do without the ground, I could say that a building which has life in some way mirrors the structure of the mind, our body, or our self.... The account I have given says, on the contrary, that when we experience this one, either in the act of building, or in the act of enjoying what someone else has built, we somehow ourselves come more closely into relation

At issue for Mehaffy is a correct disposition toward reality and thus a correct understanding of our relationship to initial conditions. Not recognizing that precision is never possible, that events are not determinable in advance, results in having rooted ourselves in abstraction. “The problem is that in essence we are failing to account for the regressive nature of abstractions. Every abstraction is a secondary structure, only partially symmetrical with the first. It is not possible to get an abstraction that is completely congruent with its subject.”⁶³⁴ As Whitehead notes, “an abstraction is nothing other than an omission of part of the truth... [such that we] must ensure a right adjustment of the process of abstraction”⁶³⁵—that is, we must understand its second-order nature as an epistemological category that partially describes the ontological nature of the world but is not, itself, of it.

Of course, Mehaffy is seeking to be practical in order to, like Whitehead, better orient us toward the reality of things; for an individual, by standing within himself, may forget or fail to understand the perpetual “limitations, incongruences, and derivations” to which his or her thinking is subject.⁶³⁶ For Mehaffy, eidetic forms qualify as one such abstraction (we will see later whether Plato’s forms themselves may or may not be the static, dead abstraction Mehaffy suggests). His basic argument might be distilled into the

with the underlying ground-stuff or the universe with the domain of pure unity or I. This is structurally quite different from the mechanist account. It says somehow, as we enter into this relation with a thing which is one, then we and the thing melt somehow, become more transparent, less form-conscious, more melted into the void of which the universe is made.” *TNO* 4:315.

⁶³⁴ Ibid., 110.

⁶³⁵ Ibid.

⁶³⁶ Mehaffy (2015), 111.

following: abstraction is an impediment in our understanding of the world, with no first-order relationship to it.

This argument concerning the character of forms can be approached phenomenologically, as Michel Henry attempts to do in *Seeing the Invisible: On Kandinsky*. Like Alexander, Henry deviates from Cartesian modes of thought in making *feeling* a legitimate way in which to know the world.⁶³⁷ And (again like Alexander) he places at the foot of all feeling the ipseity of *life*—that irreducible in-itselfness that precedes even intentionality (which is Henry’s step beyond Husserl), a non-intentional knowing, which Henry captures through the concept of affectivity or, more specifically, a “pathos-filled immanence (*immanence pathétique*).”⁶³⁸ This, against the “ek-static transcendence” of the intentional, Husserlian mode of phenomenalization. But this does not suppose that simply because it is a feeling, simply because it resides in this deep interiority, that it slips away from our total conceptualization (the known unknown); if this were the case, we’d be back in a Cartesian posture. On the contrary, Henry’s phenomenology of life presupposes that feeling is “linked” to the world, meaning *touches* us, and we experience, before we *intend*, a world of “tonality,” “resonance,” “colour,” “life”—in other words, interiority is not only in ourselves but in all else, an invisible ipseity that shines out of things and which we respond to before we encumber them with imposed meanings of our own.

⁶³⁷ Alexander: “A personal link with our own self is connected to each region of space, in that degree to which that region of the space has life or is centered. Thus, not only value becomes associated with each region of matter-space, but something personal and self-like—*feeling*—also appears in space. And this, then, of necessity, would be part of *physics*.” *TNO* 4:326.

⁶³⁸ See Scott Davidson’s introduction to Henry (2019).

Henry offers the example of a letter that we see again, as if for the first time, when we see it for its oddness, for its sheer pictorial form, shed of its phoneme (or linguistic purpose):

A decisive event takes place then. Presented with this letter that no longer plays the role of a letter and ceases to belong to the system of language, the spectator experiences a new feeling, one that is different from what was felt in relation to the ordinary letter, a feeling so faint that it hardly seemed to be conscious. To the contrary, the emergence of an unknown form—the form of a letter that has never before been perceived in its purity and formal autonomy—provokes a particular impression, “happy” or “sad,” “languishing” or “proud.” This holds for the form of the letter as well as the linear segments that compose it. We experience this undetectable change at the basis of sensibility—the change from the almost unconscious tonality experienced with the linguistic sign to the much more lively, sometimes overwhelming, experience that the form of this sign as such stirs in us—for example, when we are looking at an alphabet that we do not know.⁶³⁹

The universe has feeling, we might say, and we experience this in feeling, in an “aesthetic experience whose content... is the affective tonality provoked by the perception of unknown forms grasped in themselves and which are revealed... in and through this

⁶³⁹ Michel Henry (2009), 34.

tonality.”⁶⁴⁰ This is a link between oneself and the pictorial object, “an inner, necessary and permanent link that is independent from the subjectivity of the individual who experiences it.”⁶⁴¹ Of course, how we experience this, or if we experience this, will have everything to do with our level of attention to the world of forms, “depending on whether or not one has the habit of [attention,]... whether one is a painter, a connoisseur or a novice.”⁶⁴² Our individual histories or infantile trauma (or mood on a particular day) may alter the tonality of the object for us, though not the object *in se*; the tonality or resonance of a pictorial form comes from its own interiority, invisibility, ipseity, or life. We are either better or we are worse seers of it.⁶⁴³

For Henry, abstract art such as Kandinsky’s offers us not an “abstraction” as it were (in the impersonal sense) but in abstracting, in the pure pictorial form, rescues for us the resonance of an object, its communicative vitality. In this light, the “abstract” offers us more reality than “realism,” or at least a realism (in painting, for instance) that shrouds its forms with the merely contingent entities of common and accepted meanings. This is why Henry deems Kandinsky’s work the “Greater Abstraction,” for his art brings to the fore what realism ought to be. But we might see it too in, say, Van Gogh’s *Bedroom*: a room saturated in the feeling of things, a geometry of shapes (not exact dimensional replications of the real bed or picture frame) but choices made by the artist that excite these resonances, or

⁶⁴⁰ Ibid., 35.

⁶⁴¹ Ibid.

⁶⁴² Henry (2009), 35.

⁶⁴³ Henry’s phenomenology of life is in obvious contradistinction to the nominalism of someone like Frege, for instance, for whom qualities are not tied to objects but are merely concepts in the mind that an object satisfies—e.g., a cloud is not fluffy *in se* but merely satisfies the concept we hold of fluffiness. Henry, as we are arguing, sees the primitive fact of experience as one in which qualities offer the first light of apprehension within perception. Fluffiness, in other words, names more than a mere human concept.

interiorities. “The object returned to its pure tone is the Object of ‘Greater Realism.’”⁶⁴⁴ And we may add Alexander to the list of these *greater realists*, as one whose project amounts to no less than serving the resonance of form.⁶⁴⁵

But in case one might fear Henry were reserved in his analysis and that the world having *feelings* was not quite bold enough, not only, for Henry, does the universe have these feelings, but these interiorities are, in some manner, living.

What are these beings that constitute the cosmos? They are every thing and element of a thing, *inasmuch as they are sensible*. They only exist in this way, that is, in sensibility. In this respect, the world is filled with resonances: all of the vibrations marking its repercussions in the soul and the spiritual action that they exert. In this respect, all matter—while seemingly dead—is a tonality and a living spirit. This much is clear: abstraction’s reduction of the elements to their pure pictoriality signifies the reduction of the cosmos to its true reality. The question of abstract painting is the question of the world.⁶⁴⁶

Just as a letter or abstract shape—line, point, colour—has resonance, so do patterns; indeed, what are letters or pictorial forms but patterns? In his treatment of colour,

⁶⁴⁴ Henry (2009), 134.

⁶⁴⁵ David Jones, the great Catholic modernist (in art and literature), would lend agreement here. “Those of us whose work no one, I imagine, would call ‘abstract,’ know, nevertheless, that it is an abstract *quality*, however hidden or devious, which determines the real worth of any work. This is true of Botticelli’s *Primavera*[...] of the music of Monteverdi, of *Finnegan’s Wake*[...] of the shape of the liturgy, of the shape of a tea-cup. The one common factor implicit in all the arts of man resides in a certain juxtaposing of forms. In theory ‘abstract art’ is no more than a conscious assertion of this truth.” Jones (1959), 265.

⁶⁴⁶ Henry (2009), 138.

Alexander comes close to what Henry himself suggests. He speaks of an “inner light” that is not a matter of “mere opinion” but a part of the real itself—particularly vivid in colour but shining wherever wholeness shows.⁶⁴⁷ Alexander takes up Erwin Schrodinger’s ruminations on the colour yellow. Schrodinger, asking one of the most innocent of all philosophical questions—do we all see colour the same?—concedes that we can never demonstrably have an answer to this but asserts there is nevertheless the intuition that “‘your’ yellowness and ‘my’ yellowness are one and the same thing, not two different things.”⁶⁴⁸ This remains an intuition but a powerful one. “As Schrodinger points out, within contemporary positivistic science, there is not even a way to describe the *content* of this intuition. If it is indeed true—as many people probably believe intuitively—that yellow—the *yellowness itself*—is the same for everyone, then this would imply that there is some domain where this yellowness actually exists. Where is it?”⁶⁴⁹

One might wonder, of course, why this question need be asked; why can’t the yellowness just exist out there, in its yellowness, on roofs and cars and leaves? But this is the old Platonic problem: if yellow appears in different places and in different shades, and yet we call it yellow, then we do so because it is an *idea*, received and encountered in the very same moment as it appears to us. We call the yellowness in your beard and the yellowness in the painting *yellow*, as though they partook in this same idea. Were we idea-less, or were there no latent idea in the colour, then nothing would be encountered, the world would be dead and indistinguishable—one thing from the next; the yellowness of

⁶⁴⁷ TNO 4:236.

⁶⁴⁸ TNO 4:236.

⁶⁴⁹ TNO 4:236.

your beard and the yellowness of the painting would be both, paradoxically, disparate (falling under no common category) and indistinguishable (of a single confused amorphous category). If yellowness is thus objectively *there*, then it cannot be nominal. Schrodinger posits a pantheistic vision in order to deal with this enchanted reality—namely, that our individual minds are all of a single mind and thus have access to this single mind and the ideal yellowness objectively there within it.⁶⁵⁰ Alexander takes a more reserved approach. “All matter-space is linked to a single blinding unity,” he says, an order which we may call transcendent only because it sits at the most immanent depth of the soul, “the subjective experience of the I which all wholeness ultimately brings us to.”⁶⁵¹ It is not that we are all of a single mind (*pace* Schrodinger) and that our separation is an illusion (*maya*) but that this “blinding unity” or “inner light” or “life” *self-engenders* itself as a leaf, as yellow, as me.⁶⁵² Everything is simply *of this life*, partaking of it, and thus shines with it, as a taste or tone or flavour possessed by every essence. And Henry urges us on even further: even before the idea as a cognitive reality of intention, there is *life*, this idea beneath the idea, as it were; a tone or taste for the in-itselfness (ipseity: “invisible life in its ceaseless arrival into itself”)⁶⁵³ of life allows us no full cognitive grasp, only a sapiential encounter of truth: a feeling that is the integral union of mind, sense, and object.

Here we touch on the importance of abstraction: abstraction denotes a *radical interiority* rather than an intellectual departure from concrete circumstance. Just as

⁶⁵⁰ TNO 4:236.

⁶⁵¹ TNO 4:236.

⁶⁵² In *I Am Truth*, Henry writes that “*life self-engenders itself as me*,” evoking Meister Eckhart’s “God engenders me as himself.” See Henry (2002), 104. Eriugena also expresses this: “In a wonderful and inexpressible way God is created in His creatures.”

⁶⁵³ Henry (2009), 16.

Kandinsky invokes feeling through a painting one can “walk through” to concretely experience the tonalities of the invisible in every visible object—liberated of their figurative representations, those staid impersonalities that impede entrance; so do we connect, link, make contact with the world through a first abstraction—this abstraction, or this interiority, is what we touch *first* when we encounter anything. It is the very “visibility of the visible.”⁶⁵⁴ No encounter is possible otherwise. The crime of abstraction (i.e., abstraction in its colloquial, negative tendency) occurs, on the contrary, when we are drawn into figurative representations: when we see a sofa as a mere sofa, when we fail to encounter the things of this world in their unique tonalities, in their own peculiar wonder. When we abstract negatively, we mute the world in cliché and banal acceptances; this is precisely the goal of modern scientific methods in pursuit of concrete objectivity—a method which, in essence, leaves out *theoria*, or intellectual understanding formed in *contemplation*, which was, for Aristotle, always the first leg on which the natural philosopher was to begin his task, if contemplation wasn’t itself the end pursued.⁶⁵⁵

The material world is thus infused with life as its very heart, which has implications for geometry, as we see invoked in the geometry of the abstract painter (or at least the good one). Henry argues that the avant-garde abstract painters at the turn of the 20th century are actually “three hundred years behind the founders of modern thought—behind Galileo who eliminated the sensible vestiges of things in order to reduce them to portions

⁶⁵⁴ Henry (2009), 14.

⁶⁵⁵ As Hadot states in his description of Aristotle and his school, “[I]t is not the case that practical thoughts are only those which result from action for the sake of what ensues. On the contrary, much more practical are those mental activities (*theoriai*) and reflections which have their goal in themselves and take place for their own sake.” Hadot (2002), 81.

of extended matter, to the figures and forms that geometry provides adequate knowledge of and behind Descartes[,...] who added to the Galilean postulate concerning the cosmic meaning of geometry by giving it a [reductively] mathematical expression.”⁶⁵⁶ The real geometrician, or the one, at least, engaged in the life that appears through it, is one like Kandinsky, who saw the

sudden failure of the object, its inability to define the content of the world any longer. This abstraction, this content—the “abstract content”—is invisible life in its ceaseless arrival into itself. This continual emergence of life, its eternally living essence, provides the content of painting and at the same time imposes a project on the artist, namely, that of expressing this content and this pathetic profusion of Being. “Abstract” no longer refers to what is derived from the world at the end of a process of simplification or complication or at the end of the history of modern painting; instead, it refers to what was prior to the world and does not need the world in order to exist. It refers to the life that is embraced in the night of its radical subjectivity.⁶⁵⁷

In other words, geometry invests us in this “pathetic profusion of Being,” and thereby implicates all parts of us, “allowing our world picture,” as Alexander states, “to include *both* contemporary physics *and* the crucial issues of value, feeling, and mystical

⁶⁵⁶ Hadot (2002), 14.

⁶⁵⁷ Ibid., 14.

experience.”⁶⁵⁸ So then what does geometry become once we return to it this *pathos* or “radical subjectivity”? Simply, it becomes that which communicates *gnosis*, that which speaks to a depth beyond itself.⁶⁵⁹ Two metres remains two metres, of course, but the two metres between a door and window (for instance) that connects centers or beings and thereby reveals the *life* which a house yearns toward becomes a distance that is not only a unit of measurement but a portal (an icon) onto an order of life that we affectively respond to: a distance that either assists in revealing and creating life, or doesn’t. It is either true and thus reveals the true proportions of the home’s living order (in conformation with the I who measures), or does not, and so is false.

8.4 A Window in the Umwelt: *The Affect That Precedes All Naming Suggests Life Beyond the Life-World*

What both Henry and Alexander propose, in other words, would be to some accounts the most crass of all anthropomorphisms: that mathematics, in its iteration in both geometry and physics, report to human feeling. But let us pursue this thread of consideration further into phenomenology, particularly into the “life-world,” the world as it is, or appears, before we burden it with analysis. As David Week describes it, the life-world is “our world-as-perceived prior to it being abstracted and theorized as a dead Euclidean void in which

⁶⁵⁸ TNO 4:327.

⁶⁵⁹ I use *gnosis*, an encountered fittingness or conformation between oneself and an object, in contrast to *episteme*, the analytical or discursive acknowledgement of fact.

objects can be metrically located.”⁶⁶⁰ David Abrams offers a similar, albeit broader, description:

The life-world is the world of our immediately lived experience, as we live it, prior to all our thoughts about it. It is that which is present to us in our everyday tasks and enjoyments—reality as it engages us before being analyzed by our theories and our science. The life-world is the world that we count on without necessarily paying it much attention, the world of the clouds overhead and the ground underfoot, of getting out of bed and preparing food and turning on the tap for water. Easily overlooked, this primordial world is always already there when we begin to reflect or philosophize.⁶⁶¹

The life-world, however, offers no necessary window onto the world in itself. While Husserl had never meant the term to negate the existence of alterity beyond the consciousness of the knower, the meanings, purposes, and conventions in which a life-world is structured are all nevertheless dependent upon the subjectivity, or transcendental consciousness, of

⁶⁶⁰ Week (2016), 88. Week, we may note here, appears to critique the “dead” space of an oppressive Euclidean picture but nowhere does he seek to re-enchant this space (beyond a sort of solipsistic aestheticism); on the contrary, his view of truth remains pragmatic, in which form and reality are not a reflection, or an experienced conformation between the known and knower, but a relationship formed in “action.” “The core metaphor within Darwinism,” he writes, “is not the mirror but the tool. The finches of the Galapagos evolved into different forms not because their beaks “mirrored” reality but because their different forms of beak enabled the various species of finch to get food in different ways. The relationship between form and reality is not one of reflection, but of action.” Week (2016), 80.

⁶⁶¹ Abram (1960), 40.

the one who knows or perceives. In other words, we are the site of the world we perceive while the world outside the *Umwelt* attends to its own (unknown) business.⁶⁶²

Week corrals Alexander's properties into this limited jurisdiction with a Crito-like gesture of apparent generosity and prudence,⁶⁶³ lest his teacher actually mean what he says when he proposes the fifteen properties bear upon a "uniform and isotropic" Euclidean space.⁶⁶⁴ Week himself seems to eschew "abstract" and "theorized" Euclidean space in his own practice as an architect and designer, presumably finding it useful only insofar as it is functional (the "space" whose properties appear to hold up buildings in a comprehensible language of geometry, as any architect must concede), whereas the human world, in which beauty matters, unfolds within the *Umwelt*, whether a culturally shared life-world or one's own. His presupposition is that beauty does not happen in Euclidean "abstract" space (by abstract we may suppose he means understood by number, from which he has already drawn the conclusion that number is not beautiful, nor our ability to know it wondrous). This leaves us in a somewhat perplexed position, in which the abstract and the concrete become relative terms, garbling our senses if we draw any deeper inference from Week's conclusion: while the Euclidean is functionally and objectively more concrete (holding up buildings), beauty, which is more concrete to our meaning-making, happens only subjectively (i.e., outside of concrete function) and thus is,

⁶⁶² Smith (2022).

⁶⁶³ Crito's apparent generosity and prudence is quickly exposed by Socrates as arrogance and pride rooted in a fear of humiliation before the many. Week likewise wishes to commend Alexander, his teacher, to the many: the modern mass ill-disposed to research who fail to observe the given limits of materialism and subjectivism. With an arrogance akin to Crito, Week seems to think Alexander has not well considered these limits—limits which form the very foil that shape Alexander's thesis in *TNO*.

⁶⁶⁴ Week (2016), 88.

in fact, less concrete; the life-world itself becomes just as abstracted a space as Euclid's, but with less function (and reality) to commend it.

But this is not Alexander's position. Years of agony would have been relieved had his position been only one of the phenomenological *Umwelt* rather than the position which sought to expand our endeavours into Euclidean space by asserting that form, just as much as function, existed there too and that the I, who extends and finds his most radical subjectivity in the beauty of the things, is the measure of formal truth in this space because these formal truths exist radically in him, too.

But the life-world does name something in our experience, even if we cannot successfully name its existence as one isolated to mere subjectivity. Ultimately, the life-world is the ground we want to acknowledge, the seedbed of all our language, ideas, and encounters with the world—the *Dasein* (not to use the term too technically) in which we find ourselves in most living contact, or sheer ineffable communion with, being itself. We may take the theme of the *Umwelt* as one which seeks to describe a real experience and the very one we have been describing: the pre-intentional world of a primal pathos, that which speaks to the primacy of feeling in the act of knowledge, shaping our apperception of space in every instant, and therefore at the origin of every vector and creative endeavour we encounter in space.

The corollary of Week's claim is that the life-world—in standing apart from objective truth—makes no sense beyond a certain grammar or language game shared by individuals (the fifteen properties are thus understood as but a new language game Alexander wishes

to offer us).⁶⁶⁵ But if the life-world were understood as that preconceptual space, or pathic moment, in which we *feel* before we *intend*, then, given Henry's understanding above, we might discern the life-world experience as one in which we experience the noumenal rather than the merely phenomenal (granting that certain psychological pains and experiences in life might disrupt this channel to the things themselves). This, however, isn't to create a dualism within our experience that dismisses the conceptual world where we more often find ourselves, over against a superior preconceptual reality. Both have a place; indeed, one might argue that the former participates in the latter. The fifteen properties are not offered erroneously to Euclidean space, nor are they meant for the life-world. Rather, they are meant in something like an assertion that the life-world is an experience that takes place in Euclidean space, one which a Platonic sensibility (Plato, incidentally, a fan of Euclid) embraces.

To further elaborate, we can again use Henry's gloss of Kandinsky's theory of abstract painting. It is not the figurative representations of what we see that necessarily show us reality but the abstract expression of the world "we walk through" in Kandinsky's art that defamiliarizes these representations in order to re-imbue them with life. The abstract form is, to channel Heraclitus, a lightning-led glimpse into the life-world, a return

⁶⁶⁵ Whereas the life-world is the preconceptual world of our individual or communal dwelling, a language game might be described as one's post-conceptual life-world: conative connections that will exist within the common grammar of a community over against another. This of course can be taken as true; different communities will use language that imply meanings only really "intelligible through communal usage over the long run." Pecknold (2018), 20. But if our meanings are always "cultural-linguistic," and never "cognitive-propositional" (to use George Lindbeck's terms), we are never naming anything *metaphysical*, and thus never *true*, which leaves us with the question, What are two people of different language games and *Umwelts* doing when they, in discussion, seek a common understanding? What do we transcend when we transcend language games (and thus *Umwelts*)? See also Lindbeck (1984).

to its primordial, pathic expression, to the world beneath names. Important, however, about this life-world is not that names have no place in it, for we might call the preconceptual resonance we encounter *the name beneath the name*, a thing's true name. The name beneath the name does not shun our naming it but communicates itself as *eminently nameable*. As Bulgakov notes, the names we give to things are not random or arbitrary signifiers of them but *participate* in a thing's true name—for we could not name anything that did not communicate itself as nameable. What enables our naming of a thing is our recognition of this resonance which all forms have: a name already there, as it were, *felt*, wordless, but calling for our response, asking us to recognize its unique value and to therefore *name it*. Every resonance, ineffable and nameless, gives life to a name that cannot fully describe that resonance—albeit, in order to give a name to that resonance, we must name something that already *communicates* itself as, to some degree, a name or word.

We might take the autobiographical example of Helen Keller here as a practical illustration of this resonance or *logos* that we respond to in naming.⁶⁶⁶ For the young Helen, deaf, mute, and blind, words began as mere sounds, sounds that could be instrumentalized to indicate physical or biological needs of the human animal. Indeed, words were nothing but extensions of these physical needs: “water,” “food,” “toilet,” etc. The names of things served as means to fulfill a biological end. However, out at a well house one day, her nurse places her hand under a spout of running water and, feeling the

⁶⁶⁶ This is an example used first by Walker Percy to likewise describe the paradox of naming, though we won't broach his own “Delta Theory.” Percy (2007).

cool flow of the stream run between her fingers, it suddenly occurs to her: Water! No longer is it a mere instrumental sound; it is a *name*, something in itself, good for its own sake rather than merely good for hers. A sapiential encounter took place in which a resonance became clear, a communication of an ineffable name that is reciprocally, by Helen, named. However, this revelation is not an instance of a merely isolated exchange between Helen and a single item (i.e., water) but in a single act of naming is a simultaneous awakening to the nameability of all things, to a “kingdom of ends.”⁶⁶⁷ “I left the well-house eager to learn. Everything had a name, and each name gave birth to a new insight. As we returned to the house every object which I touched seemed to quiver with life. That was because I saw everything with the strange, new sight that had come to me.”⁶⁶⁸ To know one thing as an end, and thus as something with a resonance that can be named, is to simultaneously acknowledge it as juxtaposed to another nameable end against which it is unique and distinct. Yet, at the same time, to know it as an end, in that terminal yet irreducible point of ipseity (which is *life* expressed in it), is to glimpse that eternal ipseity which self-engenders itself into every nameable resonance and, to some degree, see the reality of ends recapitulate themselves in just a single instance or particular member of them—in “water” for instance.

The upshot of this to our understanding of the life-world is that the life-world is always something we always already have secret or hidden knowledge of before we name or conceptualize it. The life-world, dark and obscure before we know it, is yet

⁶⁶⁷ Kant (1998), 4:433–34.

⁶⁶⁸ Keller (1903).

communicative, luminous with names that precede our naming—an Edenic blaze guarded by Cherubim or (as the Cherubim are sometimes interpreted) “a pouring forth of wisdom” that is only an obstruction for those who are not yet made ready for it.⁶⁶⁹ In other words, for there to be a preconceptual world at all, we must already *know it* before we have intended it. To be aware of one thing is already to be familiar with the resonance (or nameability) that abides in all things—the universal unity which expresses itself uniquely in each particular.

Another way to put this, as in Alexander, is that in Euclidean space we are to serve not number, as it were, but *form*, and the unfolding resonances of form. Only in this way do we, as geometricians, increase order and reveal truth. Alexander seeks a further depth that Euclidean geometry does not fully elucidate: the secret order of beauty that expresses itself in geometries, in proportions, in limits and boundaries, but communicate too that underlying unity in every name, self-engendered in every resonance, that calls us toward our own participation in this order. In broadening our scope as geometricians, we broaden our window onto the mysterious life-world, not as something we plunder when we name but something which lives in conjunction with our naming. Thus, names, the discursive act of philosophy, the mathematical act of geometry, the mystical endeavour of poetry—these do not obstruct our entry into the life-world (i.e., the primal pathos of being) but participate in it, have their essence in it, and perhaps offer a higher contemplative return to it.⁶⁷⁰

⁶⁶⁹ Eriugena (2020), 527.

⁶⁷⁰ For it is words that bring us to this contemplative experience, whether in Henry’s philosophy, Helen’s autobiography, or in a simple poetic description, such as Donne’s “Her body was a thought.” We do not escape or break through names or logos when we break through their strictly discursive renderings; rather, we venture into the heart of the Word.

8.5 Invoking Plato: *Establishing a Metaphysics of Form as Crucial to Alexander's Theory*

In this second half of the chapter, we will look more closely at the contours of a Platonic theory of form, taking as our simple point of departure Mehaffy's criticism of its invocation in Alexander's theory of the generative process. Unlike Week, who argues that Alexander's philosophy is offered in the wrong venue (i.e., objective reality), Mehaffy agrees with the objective rudiments of Alexander's theory of order but believes the metaphysical dimension is not necessary for the cogency of this theory. I will not engage with Mehaffy's own alternative theory to uphold Alexander's work (it is grounded in autopoietic notions of nature against which we have already offered criticism in ch. 8, sec. 3); instead, I will begin with his simple critique—not unlike Week's criticism of metaphysics as essentially determinist (i.e., a stencil forced upon reality), Mehaffy asserts that Platonic Forms, rather than offering dynamism to the creative process, impose barriers or constraints on creative freedom. My ultimate task in this chapter will be to apply a theory of movement to the forms—one which will distinguish “flux” from “flow” and in which synaesthetic apprehension of form corresponds, or conforms, to the “measure of the self” in its full embodiment. To arrive at this point, I will develop a parallel between Alexander's “generative process” and Plato's fourfold discernment of “due measure.” A metaphysical theory of form, I conclude, not only grounds the mysterious coherence of all reality but explains the pathic encounter of human creative experience.

8.6 Finessing the Form: *The Non-Competitive Idioms of Geometry and Finesse in Alexander's "Greater Realism"*

In volume 2 of *The Nature of Order*, Alexander uses the example of the Greek carving of a horse (see below) to help explain what he calls the “generative structure” which all good art and building employ to allow essence to unfold in its own tones or resonances.

Look at the marble horse shown here. Let us consider carefully what the artist did to make this marble horse, and how the fifteen transformations helped him, and how the mistake-free nature of the carving, and its geometric beauty, are really aspects of one and the same thing. The artist had, one assumes, seen many horses. His carving is a distillation of what he knew.⁶⁷¹

Alexander directs us to the eye of the horse:

The eye of a horse is a mysterious structure, not easy to capture. It bulges, is visible from the front, yet somehow sits in the side of the head, under the occipital ridge. If you try to make these features literally, the bulging eyeball and the crest bone, you may very easily fail to see the whole in its deepest way. Trivial realist artists often make this kind of mistake. But the ancient Greek sculptor who made this marble horse looked at the wholeness of the eye in a real horse, and saw the way that the eye in a real horse causes a field effect. To create a representation of the

⁶⁷¹ TNO 2:200.

wholeness—not merely of the details—the artist applied some of the structure-preserving transformations. He used the *alternating-repetition*, *boundaries*, and *strong-center* transformations, to create a large-scale field effect extending all over the side and front of the horse’s head, just as it does in life. To do this, he had to invent something which looks to a modern eye, abstract and unlike a real horse. The lines visible around the eye of the sculpture do not appear in a real horse. Yet in fact the marble horse is more deeply horse-like, has more of the real feeling and presence of a horse than most of our contemporary “realistic” representations, because it is the *wholeness* and its true field of centers which finally appears in the stone, not merely an accurate transcription of details. And the same thing occurs throughout this sculpture. Again and again, we see living centers in the carving: the nostrils, the nose leather, the plate between the ears and on the forehead.⁶⁷²

⁶⁷² TNO 2:200.



15 / THE GREEK MARBLE HORSE



Highest example of generated complexity: Greek carving of a horse, 6th century B.C. Look at the eyes, the head, the forehead ornament, the strap around the nose—each part has been transformed, by transformations originating in the whole, to have

POSITIVE SPACE and GOOD SHAPE which thus intensify the whole.

In the section above, we loosely placed Alexander (along with Van Gogh) in Kandinsky's category of "Greater Realist," rediscovering, or re-invoking, life in the forms, similar to the project of "The Great Abstract Artist." Here we see this emphasis explicitly surface: Alexander's attention is not upon the so-called realism of (in this instance) a horse but on how one invokes the wholeness—the life and personality—of a horse. While not a representation of any particular horse, and thus a general representation, the abstraction

does not cancel out particularity. Rather, in being more intensively *horse*, it draws us into greater attention to it as a particular (i.e., “this particular, unique sculpture”), but also, in its general character, intensifies the particularity of every individual horse. Its beam of light is its own, but it shines too out of the heart of every member of that form.

To put it another way, we have moved toward a greater geometric coherence than a mere realist representation would achieve. But why? Have we followed a ready-made formula? Are there mathematical steps taken, as accurate for this sculpture as it would be for another? Is there a perfect geometry of a horse as there is for a triangle? Any affirmative answer to these would, rightly, offend all creative sensibility, but, as we’ve sought to make clear, Alexander is not arguing for any such formula, nor is he arguing for a merely idiosyncratic style of geometry all his own (sequestered in an *Umwelt*). What he is saying is that we as persons come alive in a world of proportion and boundary, and our creative enterprises within this realm—working with these proportions—make us geometricians. There is no formula for beauty other than the contemplative one we assume in a criterion such as the “measure-of-the-self.” The *more geometrico* and the *esprit finesse* are not, for Alexander, two isolated faculties of human endeavour but are intertwined. For the Pythagorean cult, as John Milbank points out, the spell of a world ordered by numbers proves not enough: “The Pythagoreans combined their interest in the mystery of geometric mediation with a new stress upon human friendship and on direct spiritual communication as the foundation of the city.”⁶⁷³ But what we perceive in Alexander, who creatively reiterates precedents already set down in Plato, is that friendship or relation are not

⁶⁷³ Milbank (2022).

strangers to the geometrician's enterprise; for it is through finesse that we unfold the world's hidden geometry, finding that numbers are not order itself but the *expression* of order—of the deep order of the good communicated in beauty, the personal ground which we, in praise, befriend, and which bids our care.⁶⁷⁴ Geometry, as Alexander reframes it, is thus an aesthetic as well as an ethical endeavour, and one which geometry itself expresses if, again, we are contemplative in our task and thus do not subtract our own relation or feeling response to pattern and proportion as merely nominal.⁶⁷⁵ In this light, his fifteen properties do not promote a ready-made formula but rather offer signposts which guide finesse. All structure that unfolds rightly, preserving itself by revealing latent possibilities, appears to have followed—whether consciously or not—these criteria. Concomitantly, however, it would not be false to say that just as number reveals the hidden structure of any formal actuality, so the fifteen properties help reveal the *generative* depths of any structure. The difficulty for the Euclidean geometrician is to accept *feeling* as a cogent part of geometry, but our argument, following Alexander, is of *feeling* as an integral part of the life of things which thus informs the *shape*, the *patterns*, the *distances*, the *limits*. Where there is no *finesse*, no harmony is struck, no *ratio* found; we get, instead,

⁶⁷⁴ Of course, I do not mean that such endeavour substitutes for human-to-human friendship; if anything, the *more geometrico* participates analogously in this mode—human-to-human friendship is a higher order friendship to that which we gain in our companionship and care with the created world of nonpersons—doubtlessly what Milbank means to convey in the point cited.

⁶⁷⁵ Indeed, the act which combines finesse with geometry is not only the artist's (or architect's); it also belongs to the research mathematician, who often relies upon an intuition between drawing and thinking. As Gemma Anderson notes in her study of drawing as a mode of knowledge, "New mathematics [research in "monodromy transformation"] does not start life as perfectly formed, rigorously proved theorems. A fundamental part of the creative process in mathematics is the passage from intuitive, imaginative understanding to rigorous, formal proof.... We can think of it as a dialogue between two characters, let us call them the thinker and the drawer.... The Drawer helps the Thinker to overcome otherwise unmanageable complexities... [and] the Thinker's geometrically apt rigorization helps the Drawer to focus and sharpen the inner vision." Anderson (2019), 51.

the *irrationality* of the WalMart (built for efficiency, function without form). Thus a Euclidean geometry must always itself be *measured* by a moral or ethical depth which guides creation's unfolding, as bringing to relief the form, the life, and personality—the divine flavour, discovered in our own contemplative depths—latent in all things. In this light, geometry has a subaltern standing to the order of metaphysics, where it achieves nobility.

8.7 The Fourfold Discernment of Due Measure: *The Practical, Generative Art of Phronesis Has Its Roots in Anamnesis*

Truth emerges as united to both goodness and beauty. The geometric realm is a personal realm in which persons dwell and act; or, put another way, the personal order is one in which geometry is presupposed. Kandinsky's abstractions are the concrete, pulsating shapes of real life in which we are located, both physically and spiritually. What the non-competitive idioms of geometry and finesse suppose are an art of *phronesis*, or “due measure,” in our conduct toward beauty—albeit one in which practical conduct and the values which it responds to speak of a metaphysical or divine relation always present and abiding in a world of genesis and becoming.⁶⁷⁶

⁶⁷⁶ Aristotle, perhaps more widely acknowledged as a thinker in the art of *phronesis* (e.g., “the golden mean” of virtue) famously rejects Plato's metaphysics of “becoming,” “participation,” and eternal “Forms,” but in placing the formal principle in the “first principle” (i.e., the Prime Mover), that toward which all things teleologically stir, he leaves the matter of participation not entirely moot. As already noted, desire possesses something of that which is desired (*epectasis*). *Phronesis*, therefore, is not just the art of realizing our nature as good (Aristotle) but the art of realizing our nature as good in a participative desire for the Good reflected within each form. See Aristotle, *Metaphysics* I.9 (991a1–991b9), XII (1072a24–1072b4).

For Plato, it is precisely in the dialectician's art of due measure where one describes a certain divine flavour—goodness⁶⁷⁷—communicating itself from every form. If this is true, we see that both Alexander and Henry contribute to this earlier Platonic vision. In the *Philebus* due measure is that dialectical art in which mixtures are sought to reveal eternal form. In the dialogue, Socrates notes the dialectician's art—bearing resonance in all art but most distilled and pure at the level of philosophical reflection—as comprising a fourfold discernment: of the unlimited (*apeiron*) and the limit (*pera*), mixture and the mixture's cause. In the former two, one recognizes a limit within an unlimited continuum—for instance, in music. Without notes to distinguish sound there would be nothing other than an infinite indiscernible noise. Notes demarcate (or limit) a continuum in sound; they become ordered members that exist over an infinite range. One may see this elsewhere, as in the continua of hot and cold, high and low, quick and slow, etc.⁶⁷⁸ The *Philebus* itself deals with the particular issue of pleasure and knowledge—and which is better—in the course of which Socrates acknowledges that both pleasure as well as knowledge are unlimited continua of their own in need of refining, or limiting, for the dialectic to continue. This is where, in Cristina Ionescu's interpretation, Plato's putative notion of Form is to be acknowledged⁶⁷⁹—those eternal, non-generated, ideal entities (*eidos*) that only mind

⁶⁷⁷ For Plato, the Good is the Form of all the Forms, a point implicitly demonstrated in the analogy of the Good to the Sun, whose light and warmth bestow life on all below. See Plato (1894), 509b–511e.

⁶⁷⁸ Ionescu (2019), 12.

⁶⁷⁹ To which category of the fourfold the Forms apply has been a point of contention. “Scholars have argued for each and every imaginable case: that the Forms are included in the class of Mixture, in that of the Cause, or of the Unlimited, that the Forms are present in none of the four classes and are in fact irrelevant for the dialogue as a whole, or... that they are present simultaneously in every one of the four classes.” (Ibid) For detailed discussion on these varied interpretations, see Desjardins (2004), pp.28-29 n31-33. Ionescu argues that the Forms cannot be the unlimited in that Forms are “by definition sources of definiteness and determination,” nor the mixed “since the latter admit[s] generation and change, nor the cause of mixtures in that “that cause is described as mind (*nous*), whereas Forms are objects of mental activity (16b-19a).” This

(*nous*) perceives. “To say that... Forms are sources of Limit means that each Form prescribes the norms for what it is to be an instance of that Form and this norm is expressed in definite measures by the corresponding members of the Limit.”⁶⁸⁰ For instance, the Form of Health present in a particular creature will depend upon certain ratios of consideration in the functioning of that creature’s body. Health will come to light in the harmonies of its own particularity, whether big or small, horse or human. This is alike to saying that the Form of Beauty will not emerge out of the same proportions and considerations in a human face as it will in the proportions and materials of a cathedral, or in the ratios and harmonies that abide in rhetorical or moral beauty (a good speech or a good deed). Thus the “members” of what we call Limit are not *only* the Form itself but these ratios and harmonies which deliver, as it were, the Form, which discover its shape in a particularity—but which also come to participate in that Form, *becoming* in terms of *genesis eis ousian* (26d8).⁶⁸¹ These ratios will entail mixtures in the sensible world in order to effect Limit, the imperfection (or, say, *roughness*) that increases beauty’s perfection, the pleasure which is knowledge, or, say, the hermeneutical or dialectical procedures undertaken in Alexander’s empirical method that produce a pattern or design that cohere to the sapiential dimension of the personal.

being the case, “Forms cannot be present simultaneously in every one of the four classes.” It is therefore “safest to assume that Forms act as sources of Limit and of its members, since Socrates mentioned explicitly only mathematical relations as members of limit.” Ionescu (2019), p.12. By mathematical relations, what is meant are the “distinct ratios” discerned where, for instance, “health” is to be found in a horse over against a rodent or person (each with different blood pressure, nutritional needs, etc.). Mathematical relations, therefore, follow an inductive process in which the Form “health” is discerned in a given animal, a “distinct ratio” that will not be identical in each kind, and therefore not a mathematics given over to a deductive *a priori* theory. Likewise, in Alexander’s example of the horse sculpture, the sculptor discerns a distinct ratio in which the Form “horse” is best expressed.

⁶⁸⁰ Ibid., p.13.

⁶⁸¹ Ionescu (2019), 33. Roughly translated, “birthed into being.”

Important to these three kinds in the dialectician's art of due measure is the fourth kind: reason (*nous*), "the Cause of mixture.... Since reason is intrinsically valuable, so too are its effects. As becomes obvious, however, reason or wisdom can operate in various degrees at the divine and human levels respectively, and this helps us understand that the fluctuation in the degree of rightness and harmony in the mixtures is a function of the degree to which reason presides over the combination of Limit and Unlimited in a particular case." Ionescu continues:

Socrates suggests that, while at the cosmic level a divine universal reason presides over the mixtures of Limit and Unlimited, and ensures the cosmic manifestation of measure and proportion, at the level of our individual lives, a reason with similar function though of a weaker power is responsible for the proper combination of Limit and Unlimited in the good human life (28e–30e). Human reason emulates the divine sort and thus its own agency, knowledge, is a way of discovering the intelligibility of what there is: Forms in themselves, the intelligible formal aspect of mixtures, as well as its own intelligibility through self-reflection.⁶⁸²

It is thus through this dialectical measure, or due measure (a "self-reflection" or *anamnesis*), that we "emulate the divine"⁶⁸³ or reflect the logos: not by overcoming the world but in assisting it to *become*, to birth essence, to map and overlay all the varieties of

⁶⁸² Ionescu (2019), 13.

⁶⁸³ Ibid.

beauty, pleasure, and knowledge in service to the formal structures of eternal being, which may be described in the terms of this fourfold. *Eros* is key to this vision, for it is a lack, or a replenishment, or incompleteness that drives our art, a recollection of what we most love. Feeling conditions the arc in which we are related to the good, one which steeps the world of becoming with *dynamis*, with potencies that move and change and give birth to whispers of what they most deeply are.

8.8 **Stasis or Play:** *Is Movement Proper to Eternity, and Can We Find This in the Platonic Good?*

In this light, the world is dynamic. However, the question as to whether the object of our love is dynamic remains unanswered, and indeed problematic, for if our language is replenishment, and what it speaks of is thus a lack of perfection, then change, motion, dynamism, *eros*, this is nothing more than a love for an object that can be none of these things in reciprocity; each denote—even *eros*—a privation which eternal perfection could not support as a property of its own essence, lacking no privation, no *need* of an otherness which conditions it.⁶⁸⁴ Here, we return to answer Mehaffy's criticism of Alexander and the implication of a metaphysics that relies upon Platonic Form. Our question is namely this: While the Platonic theme of due measure supposes a dynamism at work in the world between ourselves and our creations, is a dynamism whose archetype is love exist in the Good, or eternal Form? If the joy and play and love of living is not itself a metaphysical

⁶⁸⁴ For this very reason, Diotima tells her interlocutors that love is not a property of the Good. Plato, *Symposium*, 201d–212a.

ground but merely an intermediary movement experienced before perfection grinds it to a static halt, then our relationship with eternity becomes equivocal rather than analogical, not intuited as an increase in love but something beyond all (analogical) apprehension. In this case, what could Plato's "due measure" or Alexander's affect-guided "measure of the self" relate itself to? We are logically left to hold Mehaffy's conclusion: metaphysics is not necessary to answer for the formal compositions of reality.

Thus, if that to which we are erotically related is not erotically related to us, then we discover that there is *no relation* in the first place. However, if we can argue that there is something dynamic in the Good, in the Forms, in eternity itself, so that our act of due measure is a contemplative activity and witness to a world that is becoming, then we can understand our own dynamic activity as not merely a preliminary movement toward an eternally static perfection but an archetypal activity analogous to the Good's own eternal act, and thus not as a privation of the creature but a participation in the character of eternity.

We might recall that in the *Timaeus* the Good is described as eternally self-diffusive,⁶⁸⁵ a characteristic that later Christian thinkers will take up as central to the erotic movement of the Trinity, that revealed understanding of the divine that proposes eternal relation as the ground of all being—an understanding, indeed, that may very well help us

⁶⁸⁵ *Timaeus* 29e–30a. Later Neoplatonists develop the concept and Aquinas reframes *bonum diffusivum sui* in a way in which the good is not considered "beyond" being but, rather, in a way in which being is prior to (or coextensive with) the good. In this light, W. Norris Clarke describes being as ecstatic by its very essence: "Not only does every being tend, by the inner dynamism of its act of existence, to overflow into action, but this action is both a self-manifestation and a self-communication, a self-sharing, of the being's own inner ontological perfection with others. This natural tendency to self-giving is a revelation of the natural fecundity or 'generosity' rooted in the very nature of being itself." Clark (1995), 46. See also ST I.5.4.

with our task. But for philosophical purposes (that will nonetheless offer ballast to understandings of natural theology and general revelation, bearing weight upon trinitarian life and ontology), it is helpful to see what Platonism can bear out on its own merits, perhaps offering, too, a phenomenological encounter with a metaphysical truth that the doctrine of the Trinity becomes a more pronounced expression of.

(Neo)Platonism makes the claim that the Good is eternally self-diffusive, but is this merited based on its system of thought? Let us make our broader theme *play* as a term which contains or relates to the nature of dynamism, those potencies of being without which we could not *move* to achieve joy or love, and which supposes sapiential activity: an engagement of affect and intellect. Let us, too, set Mehaffy's criticism with that of Eugen Fink, who critiques play (following Nietzsche) as impossibly applied to eternity in a Platonic metaphysic:

Nous brings forth the total structure of all beings. And that which comes about through reason is itself rational: is *not* a vast aimless play, not a dance of things, not an inconceivable ascent and decline of everything transitory. The Platonic conception of the world does not leave play to the side; it does not overlook it—but it banishes it from the essence, displaces it from the heart of the world, pushes it away into the sphere of sensuous appearance, assigns it an intermediate role, a pointing-out-the-way, in which it points beyond itself and away from itself.⁶⁸⁶

⁶⁸⁶ Fink (2016), 100.

Fink himself develops a sophisticated understanding of play in his thought, and even one comparable to that of Henry's, in seeing the pathic as prior to intentionality.⁶⁸⁷ But let us note the presuppositions Fink here makes on the theme of play, that dynamism of life that, he argues, ceases in the rational character of eternity, *nous*. Play, for Fink, implies a certain "aimlessness" as well as an "ascent and decline of everything transitory."⁶⁸⁸ Play, in other words, requires a movement akin to flux, an activity to which the transitoriness of the world is an essential and necessary component. The playworld is one in which *death* has a certain presence. Risk, of course, is an important feature of play: winning is only rewarding if there is the possibility of loss; something must be at stake for us to sustain play, at least where a game's objective is a victory that supposes another's loss. However, this is not the only kind of play, and indeed, because such a "victory" has a resonance for only an instant in time (though we may, for better or worse, nostalgically hold on to it), play or movement never truly attains its object. We court the numinous in a thrill of creative outpouring that is held up for a determined amount of time, a time (or "playground") we may re-enter in future games⁶⁸⁹ but which will always require the risk of an ultimate frustration—a loss in outcome because the game is over, or because the game is lost. If we are to frame play in these terms, as we may argue Fink does, then play is as much joy as it is agony, brief glances at eternity at the edge of an abyssal canyon that threatens death. The game of life, after all, is one we all lose.

⁶⁸⁷ In his theory, for instance, of the *meontic*. See Bruzina (2004).

⁶⁸⁸ Fink (2016), 100.

⁶⁸⁹ Huizinga (1971), ch.1.

Let us argue, however, that movement or play does not suppose this sort of game but might suppose a game *without* losers—and thus prescind of death and the conditions of the transitory—and that to do so would not entail eschewing the rationally perfect (*nous*) but would entail engaging ourselves in *nous*. To distinguish what we mean by play in this spirit, let us distinguish first what we mean by movement. Is the moving dynamism of life we wish for the dynamism of ascent and descent, of collapse and decay, that which is predicated on risk and the possibility of error *as central* to its purpose, or is there another movement available to us? The sort of movement I suggest here is one of *flow* rather than *flux*, a subtle distinction but one implicitly acknowledged in Plato's own work; flux denotes temporal change and motion (transitoriness), whereas flow, a motion in conformity with *nous* and thus a *movement* of eternal and uncreated spirit—human virtue, for instance, going with this *flow*⁶⁹⁰ as a rational participation in wisdom. This flow finds its summit in philosophy, in the engagement of forms that bid our creative endeavour in which they ceaselessly unfold their nature to us. We might embody this with the illustration of lovers whose love is a continuously deeper knowing of one another with no endgame in sight, a co-creative act in which the risk of loss does not *condition* the play. Rather, the play sustains itself by a sort of self-perpetuation internal to itself, but that is in fact a participation in *nous*—knowledge—moving toward the perfection of flow within the unity of the One. “It is like a choral dance,” writes Plotinus.

⁶⁹⁰ Mason (2019), 868.

In order of its singing the choir keeps round its [*koruphaion*] but may sometimes turn away so that he is out of their sight, but when it turns back to him it sings beautifully and is truly within him... but not always turned towards him; but when we do look to him, then we are at our goal and at rest and do not sing out of tune as we truly dance our god-inspired dance around him.⁶⁹¹

Here, play (or dance) is not contrary to the One but attributed to the One's nature "at rest," a movement that is not just a pure paradox beyond our thinking (to which we must give our acquiescence because "beyond rest and motion" is what we must suppose of a super-ordinate principle to which no predication can be ascribed). On the contrary, this is not beyond us but an experience we have and thus *know*, best described (within a discursive engagement) in paradoxical terms. This dance is nothing less than the dance of the mind in love with its object, that ultimate unity which engages it on all levels of its activity, from the most basic to the most contemplative. Reason knows this erotic movement that is *both* a movement toward the One and a participation in its moving rest. By merely opening its eyes, as it were, reason moves toward the very coherence of objects, toward unity, wholeness, consistency, completeness. As Rosemary Desjardins writes,

Plato finds that we do in fact operate with an awareness of unity: not bare unity, but unity in multiplicity, in short an idea of wholeness that measures out appropriate elements, and combines them to constitute a unified whole of parts. This, he

⁶⁹¹ Plotinus, VI.9[9].8, 38–45.

maintains, is the necessary presupposition of our being able to posit the very notion of “physical object” as a whole that integrates, and thereby makes sense of, the multiplicity of our fleeting perceptual images.⁶⁹²

In other words, we do not see parts, we see wholes; we sort them out of the jumble of the world before us, recognizing them through the fourfold process in which reason finds in each seeming jumble a concentration of unity and coherence against a possible *apeiron* of blather. And the more this inner movement (toward coherence, unity) is recognized as reason’s nature, the more it understands the object which conditions it and promises it rest (which is simultaneously dance, play, freedom), moving away from unreflective infancy toward reflective, self-aware, dialectical procedure that evinces a piety in its endeavour toward the One erotically beckoning it.⁶⁹³ The flow of reason, or, as an image of the good, the good it diffuses, is the ecstatic movement that integrates all parts or centers into unity, coherence, through dialectic. This is a movement, or flow, that does not hold unities against one another, but that always creatively seeks further unity, further integration, reaching toward eternity and a full apprehension of all of reality as within the good. In this light, love need not find a terminus in the good, but find itself co-extensive with it (as Plotinus affirms)⁶⁹⁴. Nothing is squelched out; some kind of eternal relationship

⁶⁹² Desjardins (2004), 107.

⁶⁹³ By engaging Euthyphro in dialectical discourse over the nature of piety, Socrates relates himself dynamically to *Logos*, participates in its *movement*, not one of flux but a participation in *flow*, the movement of eternity we encounter in love and knowledge. The entire dialogue of the *Euthyphro* is a demonstration of piety. The dialogue’s *aporia* is one in which we encounter an insoluble principle (the good) in the dialectical activity of Socrates rather than an *aporia* (lack of resolution) in Euthyphro’s humiliated flight from the conversation.

⁶⁹⁴ See ch. 4, sec. 6.

is sustained, in a unity and coherence that honours all things in a participative dance analogous to the eternal flow of the good. While the Trinity may better express the movement of relationship of eternal life—the continuous desire or longing between that is love’s perfection—we may discover it implicitly here in the contemplative, creative act of Plato’s theory of due measure as standing at the heart of wisdom’s continual unfolding.

8.9 Warmth and Movement in *Dianoia*: Form as Angelic Countenance, or Synaesthetic Word, Apart From Which Nothing Moves

Of course, we must take care when we speak of dialectic (the play of reason which partakes of flow) to note where it applies—certainly if we are speaking of a craftsman and artist like Alexander. For Plato, there is a hierarchy of knowledge in the arts,⁶⁹⁵ a movement toward greater certainty and less opinion with dialectic at the top, and the lower and higher crafts toward the bottom, the latter relying much more on “guesswork” within their sphere of activity. Do we thus only speak of dialectic analogously when we speak of Alexander’s generative building? Is our geometry of feeling one of strict opinion, lost out in the sea of guesswork, where, as in medicine, we are always testing our tinctures against side effects and inefficacy, or as in music, seeking through trial and error the next note to our tune? There are two ways to look at this—the first, of course, being that we are not engaging Alexander’s generative building *per se*; we are engaging Alexander the theorist who *presents into* the sphere of *dianoia* an understanding of the craftsmen’s engagement with

⁶⁹⁵ Jessica Moss lists it: “1) Lower crafts (music, medicine) (55e). 2) Higher crafts (carpentry) (56b–c). 3) Popular arithmetic, measuring, weighing and calculation (56c–d). 4) Philosophical arithmetic, measuring, weighing, and calculation (56d–e). 5) Dialectic—the study of what is (57e–58a).” Moss (2019), 3.

beauty—what his or her guesswork itself relates to. Secondly, and moreover, he provides the craftsmen with a framework or theory in which to decrease—though not fully dissolve—the nebulous nature of his guesswork, positing certain universal characteristics of beauty in order to reduce *flux* in the craftsmen’s task, and increase the opportunity for *flow*: if I know, for instance, that *roughness* (as opposed to the dull yet pristine) has the potential to further unfold a form and a community of centers, then my engagement in the activity may be a deft penetration into the possibilities of the form itself rather than an accidental movement outward into considerations that are unbecoming of the form.

We may, however, take another tact into our topic of movement and flow. Our presupposition above has been to argue for movement in the eternal (flow) as if to place it alongside the banal quotidian movements of daily life (flux)—that is, as if flow and flux existed as two different kinds of movement. But it may be that movement increases *only* as we depart the world of flux and becoming. Nothing *moves* here, nothing *happens*, nothing has *life* (or indeed *is*) that fails to partake in the good. Indeed, the movements we cherish are not ones that belong to the world of becoming but are rather those that help us *be*.⁶⁹⁶ This appears obvious when we speak of ethical conduct or the ecstasy of love, but it may apply to even those acts we often attribute to the world of flux, like a morning walk, a bird beating its wings, a smile. There is in these, as Ravaisson notes, a “eurythmia,” “a movement which does well,”⁶⁹⁷ a “grace” Bergson describes as “the charm we see in

⁶⁹⁶ To say they don’t “belong” is not to create a dualism. Goodness is profoundly, radically present in becoming, but its throne is elsewhere.

⁶⁹⁷ Ravaisson quoted in Hadot (1993), 50.

movement,” analogous to “the act of liberality characteristic of divine goodness.”⁶⁹⁸ Pierre Hadot writes,

It can be recognized in movements which express lack of constraint (“*l’abandon*”), deference or affability (“*la condescendance*”), or relaxation (“*la détente*”). Artists try to grasp it in attitudes of the head, or in the feminine smile; but one can just as easily have a premonition of it in such fundamental movements of living nature as the beating of wings, of the waves of the sea. “Observe,” said Leonardo da Vinci, “the meanderings of each thing. If, in other words, you want to know a thing well and depict it well, observe the type of grace that is peculiar to it.”⁶⁹⁹

Lack of constraint, affability, relaxation, *sprezzatura*—it is as though we give over to formlessness to thereby land within form, which is similar to saying that an act of transcending oneself is an act towards the good, that which, on some level, transcends form itself in being beyond all predication (and thus beyond all definition apart from apophatic attribution). And we might deepen this with Walt Whitman’s notion of a “phiz”—that is, a mixture of personality with physiognomy and physique.⁷⁰⁰ While the two latter terms do not apply to waves or leaves as much as to animals, the point (to reiterate what we gained from an understanding of Plato’s due measure) is that we do not just *copy* or

⁶⁹⁸ Bergson quoted in Hadot (1993), 51. Hadot adds to Bergson’s distinction the argument that “for Plotinus... they [the two categories of grace noted] were identical. The grace he speaks of reveals to us the gratuitousness of divine initiative.”

⁶⁹⁹ Hadot (1993), 50.

⁷⁰⁰ See Bennett (2020), 2.

identically repeat a so-called form-in-the-sky, but rather through a thing's particularity aligned and mixed with its nature, we encounter a shimmer of a certain perfection in that essence.⁷⁰¹ Peculiarity receives a formal character in a mixture of movement and context—a movement that isn't just “the walk,” “the lean,” “the loaf” (in Whitman's terms)⁷⁰² but the eurythmia of the form that the movement invokes.

This eurythmia is captured, too, in stillness. In an example directly analogous to Alexander's discussion of the Greek horse carving (above), Pavel Florensky, in his study on Platonic Ideas, discusses the inherent movement of a Rodin portrait. “When we stand before such a portrait and try to understand how its life is communicated, it appears to us that the expression of the face keeps changing; we notice that one mood is succeeded by another, which is succeeded, perhaps, by the first one and then by a new one, and so on—a tranquil succession in which, however, we hear again and again one fundamental tone.”⁷⁰³ Florensky notes how the positivist may reduce this dynamism to a theory of “physiognomic disharmony” in the facial features: one corner of the mouth turned down, difference in the expression of the eyes, etc.⁷⁰⁴ It would seem that the necessity of such a disharmony is, in some sense, true.⁷⁰⁵ An artist must distort the melodies of colour, contour, and expression but in doing so, nevertheless, must invoke a deeper *harmony* or

⁷⁰¹ Ibid.

⁷⁰² Ibid.

⁷⁰³ Florensky (2020), 40.

⁷⁰⁴ Ibid., 41.

⁷⁰⁵ Ibid. “It would seem that, abstractly speaking, it would be much more natural for artists to represent the same mood in the corners of the mouth, in the eyes, and in other details of the face, uniformly expressing the life of the soul in the melody of contours, the colors, and all the other forms. The whole portrait would then be like a single, unique tone intensified by all the resonances, but life would be absent in it.”

“self-movement.”⁷⁰⁶ It is not just a matter of imposing a dissymmetry upon the subject—that is, another stencil with which we march beauty to the gallows. On the contrary, the artist still has work to do: he must pursue and create the peculiarity, or *phiz*, that will capture movement and tone. Important here is that to capture this movement in a painting is to capture a certain *perfection* of movement not exhausted by physical movement. Rather, it appears to have something more to do with eurythmic grace: a portrait doesn’t move—physically or spiritually—unless it *moves well*. Alexander’s example of Matisse’s self-portraits function in this same way.⁷⁰⁷ Dynamic centers of evocative disharmony blend to create movement; each portrait, starkly different in its parts, nonetheless sustains a tonality or movement utterly peculiar to Matisse that no single portrait can fully exhaust. In this light, again, it is not the flux of quotidian life that attracts us to being but a movement more subtle and real: *the flow of formal activity*. And this flow is no abstraction from the things themselves but the “face of the face.” Idea, Florensky argues, *is countenance*, the movement peculiar to each face (or center) that bestows upon it, or creates within it, intelligibility.

As marked out in the *Theaetetus*, Plato preferred geometry to arithmetic in that the latter measures “number as basically discrete.”⁷⁰⁸ Geometry, on the other hand, follows or seeks a continuity of related points. Seeing number as discrete, combined to form a “bad infinity”—in Hegelian terms—arithmetic cannot resolve irrationalities on the incomplete scale of parts when those parts don’t take in a consideration of the *apeiron*, whereas the

⁷⁰⁶ Clark (2010).

⁷⁰⁷ See ch. 2.

⁷⁰⁸ Desjardins (2004), 121.

geometrical move from, say, one- to two-dimensionality makes it “possible [to] actually resolve problems involving irrationals.”⁷⁰⁹ “Now to a man who can comprehend this,” states the Athenian in the *Epinomis*, “it will be plain that this is no mere feat of human skill, but a miracle of God’s contrivance.”⁷¹⁰ Without the implied *apeiron*, the range upon which reason judges the mixture of the limit and the unlimited, we are never considering a whole or form. In the parts irrationalities accrue; in the whole they are resolved. The simple point is that in a shape, we discover form, which isn’t merely shape as such but that “inner light” (in Alexander’s terms) or self-movement (or flow) of intelligible coherence. Number coheres upon a metaphysical plain; and the face, as illustrated by Matisse and Florensky, seeks the form or perfection of movement as such, in the peculiar limits (discerned from an implicit unlimited plain) of human facial expression. In other words, the *dianoia* of the artist, whether a cartoonist or an impressionist, is a geometry that seeks flow in the relation of a form’s parts.

For Plato there is something deeply fascinating about this way of looking at geometry, with its modeling of higher levels of dimensionality, its bringing into existence successive levels of reality, its integration of more and more material from lower levels of reality, its integration of more and more material from lower levels into increasingly comprehensive wholes, thus establishing an ever more complete mathematical order of harmony.⁷¹¹

⁷⁰⁹ Ibid.

⁷¹⁰ Plato (1892), 990d.

⁷¹¹ Desjardins (2004), 123.

A corollary here, of course, is that a Euclidean geometry is not opposed to the one we are outlining concerning feeling, for this harmony of order was precisely the one Euclid pursues and establishes—a search for the flow of form by the addition of the lower, material or arithmetical components toward this higher order of the geometrical.

Here, we can relate together what might, by now, appear self-evident—namely, that flow, life, countenance, and *feeling* mean much the same thing in the way in which we’ve presented them. Movement in *nous* is not a mere swirling around of intellectual concepts but a bodily, sapiential experience related directly to affect. Life is movement, and it is into the intensity of formal movement that we are intellectually attracted. “For Plotinus,” writes Hadot, “if things were nothing other than what they are, in their nature, essence and structure, they would not be lovable.... Love is always superior to its object, however lofty the latter may be. Its object can never explain or justify it. There is in love a ‘something more,’ something unjustified; and that which, in objects, corresponds to this ‘something more’ is grace, or Life in its deepest mystery.”⁷¹² “Small countenances of the heavenly foundations of life,” states Florensky, “that’s what ideas are.”⁷¹³ Or we might call them presences, idea-angels, as both Plutarch and Philo of Alexandria, along with the Neoplatonists, considered them to be.⁷¹⁴ It is perhaps no accident, in this case, that we trace an etymology of ideas, or *eidos*, back to the Homeric *eidolon* (beautiful appearance)

⁷¹² Hadot (1993), 50.

⁷¹³ Florensky (2020), 86.

⁷¹⁴ “There is no disputing the truth of Plutarch’s assertion that the mysteries ‘provide the best explanation of the nature of demons.’” Florensky (2020), 85.

which relates to seeing, and thus to a light which *warms* us. In the *Phaedrus*, Socrates states,

As far as beauty is concerned, it shone—*elampen*—while still there, and when it came here, we noticed its radiance by the clearest of our senses.... When an initiate, contemplating much that is over there, looks at a divinelike face, with the imprint of great beauty, or when he looks at a beautiful body, he begins to tremble and is embraced by fear of what is over there, but when he looks more closely, he treats this thing as if it were a god and, if not for his fear he would be like one in ecstasy and would bring sacrifices to this thing of beauty as to sacred sculpture or god; this vision of beauty produces a change in him through fear, throwing him into a sweat and making an extraordinary warmth flow through his body. Receiving through the organ of sight the radiation of the beautiful, he becomes warm.⁷¹⁵

That which warms us has a source, a presence, a vision beyond sight to which we bear witness, even when its warmth is subtler than the sublime heights of beauty which Socrates describes. Plotinus ascribes a character of gentleness to the good (that is, presumably, a predication not corrupting but identical with its simplicity)⁷¹⁶ that seems more in line with the way in which something like the coherence of a song, a sentence, or a face touches us when, in finding its limit and mixture, we are brought into its flow.

⁷¹⁵ Plato (1892), 250d–251a.

⁷¹⁶ Hadot (1993), 96.

Importantly, too, when we speak of ideas as angels or presences, the personification isn't gratuitous, for we find something more in the forms than a mindless pulsating vitality that draws in the affect, or some neutral unit of information out there beyond seeing. On the contrary, there is no idea that isn't a *message*. Florensky:

So, what is an idea? It is a species, though not a species in and of itself, but a species as giving knowledge of that of which it is a species. An idea is the face of reality and, *par excellence*, the human face[,].... not in its empirical randomness but in its cognitive value; i.e., the human visage or countenance.⁷¹⁷

Just as a countenance relates itself, communicates what it is a communication of, so any form is as much a *word*. Indeed, every form is a synaesthetic word, invoking both hearing and seeing—beyond sound, beyond sight—that illuminates, warms, and moves us.

8.10 Conclusion

In this chapter, we have sought to extend the boundaries of geometry to fit the shape of a metaphysical rather than an only physical (or intellectual, non-affect-related) landscape, which is to say, we have adjusted it to fit the shape of the person. If we take a “measure of the self” as our principle, we do not see beauty as confined to the life-world, nor form as an abstraction that imposes upon our creative negotiations in our aesthetic use of space.

What we see, rather, is that geometry begins in coherence, wholeness, livingness,

⁷¹⁷ Florensky (2020), 81.

movement, located first in the affective faculties of the human being insofar as we understand all intellectual activity (all activity of and in *nous*) as an encounter first with the feeling of things, the name beneath the name. To deepen this point, we looked at Plato's own relationship to form as invoked through a due measure, a fourfold process which combines a mixture of the unlimited and the limit that reason judges by recollection, or through a familiar warmth. Following Mehaffy's criticisms of Alexander, we addressed a wariness to Platonic Forms for a possible incoherency within the theory that suggests that an immoveable (or static) eternity was not the end of human desire but precisely the opposite of what any soul would wish for. Our response here was to distinguish movement in the context of both flux and flow, the latter being the motion of formal activity which exercises the only true erotic pull over the soul. Finally, we tied this consideration of flow back into feeling, an angelic warmth whose nature is one of communication or word. In this light, we might return to Alexander's dark shadow—that mystical tune he pursues through his dream in India—to a geometry that seeks to bear out the shape of the person, looking for the peculiar rather than the mechanical, for an angelic countenance of warmth incarnated within material space.

9. **Conclusion:** *Alexander's Ecumenical Metaphysics*

In our study, we have described and explained the metaphysics of Christopher Alexander and further demonstrated all the implicit levels a living and personal reality entails. If mechanism no longer holds primacy, if mind and matter are not inexorably separate but suggest and abide in one another, then the way in which we have known the world, and the methods we have used to act within it, are dramatically backwards. To invoke Plato's Divided Line, we have ascended from opinion into the first segment of true knowledge, discovering the mathematical, the abstract, the general, but without realizing that this itself is preparation for more: the existential immediacy of the contemplated forms (that Kandinsky's "abstract" painting, for instance, helps invoke). Instead, we suffer the "downward slope of intellectual gravity,"⁷¹⁸ the slip into Cartesianism that has been our perennial danger: instrumentalizing true knowledge (mathematics, for instance) for our own ends (e.g., manipulation and control over nature); this knowledge amounts to nothing more than a tool to determine the push and pull of a mechanistic culture still cleaving to shadows. To invert our relationship with the real does not mean that we have taken up a new and drastic paradigm; it means, rather, that we have failed to reach the summit of the paradigm whose trajectory we are always already on. Neither mechanism nor mathematics are first-order realities; they serve something else, as do we—when the "measure" within us calls us to act and serve as makers in this order, and lovers of it.

To recapitulate our major themes in brief: in the third chapter (following introductory chapters one and two), we investigated "life" as a metaphysical reality,

⁷¹⁸ Roochnik (2016), 120–53.

bearing upon and connecting all things. Free of mechanistic presuppositions, mind and *res extensa* are knit together in primal unity in a living world in which analogical relationships inhere and make true knowledge possible within the anamnestic “measure of the self.” In the fourth chapter, we connected this cosmic inversion to Christian Neoplatonism: if the world lives, then soul abides in it. Our discussion investigated the optimal model of a world soul and found that Bulgakov’s sophiology is Alexander’s closest philosophical companion. In the fifth chapter, we delineated the necessary method, creative or scientific (which we see, as in Goethe, intimately related), to approach the “living animal” of the real, deepening Alexander’s own methods with the thought of Goethe, Keats, and Cusa. In chapter six, we described the fifteen properties one at a time, gathering them into the sophiological shape of the Alexandrian cosmos. In chapter seven, we took a critical look at Alexander’s understanding of teleology which, far from throwing us off key, nudged us toward the theme of a nuanced epestatic state of somnolence in which to comprehend the livingness or sophianic state of non-sentient, inanimate life. In the eighth and final chapter, we applied—over against Alexander’s critics—feeling and movement to the Platonic forms in order to bring eternity into closer existential proximity.

Our study of Alexander has been, in the main, philosophical. Where theological themes have come to light—as they obviously do in an interaction with Christian sophiology—they were addressed from a philosophical direction rather than one that supposes a set of assumed dogmas in either Alexander or the reader. While faith has been a condition of all our conclusions, it is a faith in the persuasive good, a faith in beauty, the faith which sits at the heart of all Alexander’s empirical research: that human thought and

feeling correspond to the world and connect us within a common, reciprocal life that is the common state and *telos* of all creatures. We may therefore understand Alexander to be undertaking a religious project—*religio* read etymologically as a re-connecting, or a re-ligamenting of a world severed from its divine ground—if not necessarily under the mantle of a particular religion. This makes Alexander’s project amenable to a particular ecumenism, or universal spiritual appeal, that puts it in line with the recent movement—instantiated by the Bulgakovian philosopher Antoine Arjakovsky—of an “ecumenical metaphysics.” Far from a “perennial philosophy” that seeks to distill religions into a single, universal religion, and far from a movement that seeks to park traditions eternally in their differences (for difference’s sake), ecumenical metaphysics seeks *dialogos*—and thus theological orientation toward *logos*—that respects the aprioris of every faith as it aims “coherently and consensually to think together the polarities of the beautiful, the true, the good, and the just.”⁷¹⁹ In this vision, religious traditions are the “rudder by which we steer when seeking the constitution of the real.”⁷²⁰ This depends, however, upon an emphasis of transdisciplinarity “centred on the notion of consciousness” in its sapiential relationship to reality. Alexander surely offers Arjakovsky’s ecumenical science an added framework, extending *dialogos* not only into the field of architecture and the built environment but into a form language that lends every field and discipline further insight into ontological relationality—the real as the embrace of fifteen properties which invoke a metaphysical life connected to every mind which knows them. Ecumenical metaphysics brings together all

⁷¹⁹ Arjakovsky (2022), xix–xx, 84,

⁷²⁰ Ibid., xx.

disciplines toward a new interpretation of the world. In William James' words, "The world interpreted religiously is not the materialistic world over again, with an altered expression; it must have, over and above the altered expression, a *natural constitution* different at some point from that which a materialistic world would have."⁷²¹ For an ecumenical science, Arjakovsky commends three criteria important for each discipline—namely, that they be "personalist," "sapiential," and "ternary," categories which well describe Alexander's "modified physics." "Personalist" insofar as the nature of order that emerges out of the iconographic depths of the self is one that is fundamentally personal. To create, to reify, to hypostatize, to make real, is to make personal. A building thrown up with a blueprint (over against one made through generative building, in touch with dreams, *eros*, prayer, imagination) subsists at an ontological deficit; it simply lacks reality. "Sapiential" insofar as Alexander's method supposes the rejection "of any dualism between science and wisdom."⁷²² Everything is connected. Wisdom is coeval with being. To know is to feel; to name is to create. And "ternary," finally, insofar as the personalist and sapiential presume an analogical depth—an eternally present third that breaks or holds dialectical tensions, making all things intelligible in triunity, in love, in a "melting unity" we experience whenever we encounter the infinite and eternal in every person, creature, or form. "If we are willing to recognize this ground," writes Alexander, "whether we call it God or something else, and recognize that this light is behind all things which are at one with

⁷²¹ James (1958), p.515.

⁷²² Arjakovsky (2022), p.107.

themselves, then we may say, simply, that a thing is beautiful to the extent that it reveals this one.

A massive building or a small one, a seat, an ornament, a simple beam, a room, has life, is deep, affects us, moves us to tears, to awe, exactly to that extent that it is a picture of that God behind all things. If you see the watery pale yellow sunlight shining behind dark gray clouds, with the pale blue of heaven shining in between some wintery morning, and you see, in that light, the original light of the universe—then, you may say, in still different terms, that sometimes, very occasionally, an artist who weaves a carpet, or who shapes a building, or who paints a tile, manages to make something which has this same light in it, where this same Self is shining out.... He has made something as close to a picture of God or Self as it can be, and it affects us, like the light of morning does, because it seems to show us directly to the heart of this self, and connects us with it, almost to the point of pain.⁷²³

⁷²³ *TNO* 4:315–16.

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