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THE EPISTEMOLOGICAL TRANSFORMATION
OF THE BOOK OF NATURE:
FROM MIRROR TO TOUCH

INTRODUCTION

The metaphor of the Book of Nature (*liber naturae*), or the Book of the World (*liber mundi*), ranks among the most complex and enduring models of knowledge in the Western tradition. From early Christianity to Romanticism, the metaphor was seen as a key to understanding the world—on the condition that the world was comprehended as a divinely ordered structure accessible to human reason. It found particular resonance in the Middle Ages, operating on both a poetic-metaphorical level (as in Alan of Lille) and a cosmological-ontological one (as in St. Augustine). It was especially invoked by mystics, preachers, and Christian Neoplatonists, who viewed the world as a text that reveals truth, encrypts it in signs, and requires interpretation.

No matter the framing, nature revealed itself as a kind of script penned by the hand of God—open to interpretation, though not always immediately transparent. From this point of view, the world itself becomes a continuous act of reading or deciphering: we dwell within a “living book” bearing a message from God to His creation (BRADATAN 2006, 38). This metaphor thus intertwines cosmological, epistemological, and existential dimensions: the world is something to be read not only with the intellect but also through the senses. Although the *liber naturae* tradition is most deeply rooted in the medieval imagination,

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its reverberations are discernible in early modern thought as well as in the proto-Romantic writings of the eighteenth century. In different historical periods, the metaphor assumed diverse forms: from allegorical readings of Scripture and nature, through scholastic catoptrics, to modern attempts at constructing a hermeneutics of the natural world.

This article sets out to explore selected dimensions of the Book of Nature metaphor as a model for experiencing and understanding reality—both beyond and within the scope of the senses. The aim is not to provide an exhaustive historical account or a genealogical reconstruction, but to highlight a series of key shifts in the metaphor's development from the early Middle Ages to the eighteenth century. The analysis culminates in the philosophy of George Berkeley, in whose work we observe a displacement or shift of emphasis across the three key dimensions. First, the medieval catoptric model—based on the *liber mundi* as a mirror of divine order—yields to a haptic paradigm, where touch becomes the principal organ of knowledge. Second, the metaphor's original association with symbolic representation gives way to a model of immediate cognition; the transcendence once inscribed in the book becomes immanent, and the text ceases to conceal a mystery to be unveiled, becoming instead a collection of signs apprehensible by the senses. Third, though still situated within a theological framework, the modern Book of Nature adopts an explicitly aesthetic dimension, grounded in the sensory experience of the world.

These issues will be discussed in greater detail in the final part of the article. The inquiry begins with an exploration of the theological, catoptric, and symbolic character of the medieval *liber naturae*. Next, the focus will shift to the Kabbalistic reinterpretation of creation as language, conceived in terms of divine letters and signs. On this basis, the originality of Francis Bacon's legible model will become fully apparent. Drawing on these very traditions (the Kabbalistic and the catoptric), Bacon attempts to develop a hermeneutics of the laws of nature in the spirit of book-based metaphors. The article will ultimately interpret Berkeley's philosophy not as a radical departure from this tradition, but as its continuation—intensified and redefined through the lens of aesthetics and sensory perception.

1. THE TRADITION OF THE BOOK OF NATURE AND ITS BIBLICAL FOUNDATIONS: A SURVEY

As Hans Blumenberg shows in his book *Die Lesbarkeit der Welt*, the metaphor of the world's readability expresses a fundamental human desire for reality as

a whole to appear meaningful and intelligible. By tracing the cultural history of this metaphor, Blumenberg suggests that experiencing the world as a text—a readable totality of nature, life, and history—was a means of domesticating the world and endowing it with significance, especially at times when the religious, sacred vision of reality prevailed over empirical modes of knowing. At the root of this orientation lies not merely the need for orientation in the world, but a profound cultural expectation that the world should reveal itself as a “meaningful reality”, available “in the aggregate state of ‘readability’”. Blumenberg also points out that modern science, even as it rejected the authority of sacred scripture, remained deeply tied to metaphorical models of the book. On the contrary, it was precisely by appealing to readability that it constructed its own credibility, “drawing its legitimacy from the book metaphors that underpinned its theoretical achievements” (BLUMENBERG 2022, 3). The metaphor, therefore, did not disappear with the waning of the theocentric worldview; rather, it was reconfigured and continued to function as a paradigm for experiencing the world in modernity.

From the early Middle Ages through to Romanticism, the metaphor of the Book of Nature served as a foundational model for conceptualising the world, the act of knowing, and divine revelation. As noted in the *Historisches Wörterbuch der Philosophie*, its classical form derives from Augustine’s doctrine of the two books: Holy Scripture and Nature as the created inscription of divine wisdom (NOBIS 1971, 957). Seen in this light, the world is not merely empirical in nature, but also textual: a coded structure of meaning, available to be read, provided it is approached with the requisite interpretive effort.

Within the Christian tradition, the metaphor took on diverse forms: from poetic visions of nature as image and mirror, through scholastic models that viewed the world as a system of analogies, to conceptions of creation as an act of writing and reading, in which every entity functions as a sign. During the late medieval and early modern periods, the metaphor gained increasing epistemological and cosmological weight, serving both to express the idea of natural revelation and to describe the evolving relationship between reason and the senses, theology and science. In the modern era, the Book of Nature model does not disappear but undergoes a gradual transformation. In some thinkers, it takes on a mathematical character; in others, an empiricist one. Reading the world as a text remains relevant, even as the very nature of “writing” changes: from symbolic and allegorical, it becomes sensory, numerically structured, and at

times even corporeal. The belief persists that nature speaks—and that it falls to human beings to learn how to decipher its language.¹

Augustine's doctrine of the two books drew upon scriptural sources, notably Ezekiel 2:9 and Revelation 5:1. Its systematic elaboration was provided by St. Bonaventure, who in his *Breviloquium* distinguished between the "inner scripture" (Divine Wisdom) and the "outer scripture", that is, the sensory world. In his *Collationes in Hexaemeron*, the world appears as a space of "likenesses, properties, and metaphorical meanings of things written in the book of the world" (*similitudines proprietates et metaphoras rerum in libro mundi scriptarum*) (quoted in NOBIS 1971, 957). Through Bonaventure's influence, the Book of Nature metaphor was transmitted to the writings of Ramon Llull, Raymond of Sabunde, and Michel de Montaigne, as well as—albeit in modified form—into the reflections of early modern thinkers. Referring to the Gospel of Matthew (22:29) in *De dignitate et augmentis scientiarum*, Francis Bacon contrasted two books: Scripture and the *potentia Dei*—that is, on the one hand, the Old Testament, and on the other, the reality of nature as the object of reason (*potentia Dei ordinata*, the power of God in the order of creation, acting regularly and according to the laws of nature).² Nicholas of Cusa, for his part, viewed things as "books of the senses", within which the divine will is inscribed through sensory imagery (NOBIS 1971, 957).

In the medieval worldview, nature was interpreted allegorically and symbolically. The role of interpreter belonged to the scholar-theologian: not the empiricist, but the one who grasped the spiritual meaning of things. The Reformation, however, contributed to the weakening of the authority of the Church and of scholastic hermeneutics. In the sixteenth and seventeenth centuries, a new interpretation of the *liber naturae* emerged, particularly in the context of the scientific revolution. Instead of continuing the older metaphor, science reformulated it: the Book of Nature was no longer a site of allegorical meaning or contemplative insight, but an object of empirical inquiry.³ Though secularised, the book metaphor endured; what changed was its language—from one of symbols to one of

¹ On the relationship between *Natursprache* (the language of nature) and the *Buch der Natur* (the Book of Nature), see SCHIEMANN (2010).

² "Laying before us two books or volumes to study, if we will be secured from error; first the Scriptures, revealing the will of God, and then the creatures expressing his power, whereof the latter is a key unto the former" (BACON 1999, 34).

³ See HARRISON (2006) for an analysis of the history and significance of the Book of Nature metaphor in the Western tradition, with particular emphasis on its role in mediating the relationship between religion and science. Harrison argues that the metaphor served as a key point of convergence between theological and scientific discourses, particularly in the seventeenth century.

numbers—most strikingly in the work of Galileo.⁴ For Descartes, the metaphor referred to knowledge acquired outside the scholastic tradition: not from books, but from “the great book of the world”.⁵ Even as the *liber mundi* was increasingly subject to scientific and mathematical interpretation, the book symbolism retained a vital role within the magical and occult strand of Renaissance thought—for instance, in the writings of Paracelsus. Nature, he claimed, consists of books forming a perfect totality “because God himself wrote, made, and bound them and has hung them from the chains of his library” (quoted in CURTIUS 2013, 322).

Walter Benjamin captured the transformation of Renaissance consciousness into its Baroque form by referring to the tradition of the *liber naturae*: “The Renaissance explores the wide world; the Baroque explores libraries. Its thinking takes the form of a book.... The ‘book of nature’ and the ‘book of times’ are objects of Baroque musing” (BENJAMIN 2019, 143). In Benjamin’s reading, the Baroque reworking of the medieval metaphor stripped it of its symbolic and magical resonance—an effect of the broader transformation of the religious paradigm brought about by the Reformation. The enclosed and finite form of Baroque scripture (and of the reality it mirrors) effectively traps the subject within material bounds, severing the path toward transcendence. This spiritual impoverishment blocks access to revelation—where writing might once have served as a hieroglyphic medium of divine illumination—and gives way to a profound melancholy (BENJAMIN 2019, 165–202).⁶ The emblematic Baroque figure of the “melancholy scholar”, such as the English physician and writer Sir Thomas Browne (BARBOUR 2013, 135), also drew upon the legacy of the *liber mundi* tradition. His antiquarian, theological, and natural-philosophical interests (and his

⁴ In Galileo’s view, the letters of the Book of Nature are replaced by mathematical signs. The universe, he writes, is “the great book” laid open before us, but one that cannot be read without first mastering its language: “It is written in a mathematical language, and the characters are triangles, circles, and other geometrical figures” (quoted in CURTIUS 2013, 324). See also PALMERINO (2006) for further discussion.

⁵ In the *Discourse on Method*, Descartes states that he resolved “to search for no knowledge but that which could be found in myself, or in the great book of the world” (DESCARTES 2001, 9). This formulation situates the metaphor within an epistemological framework that contrasts introspective reason with empirical learning from the world.

⁶ According to Blumenberg’s account, in the Baroque version of the *liber mundi*, shaped under the influence of Counter-Reformation rhetoric, the world appears above all as a sign-filled guide pointing toward God. Here, the book serves not merely for contemplation but inspires an active journey, in which the reading of nature becomes a metaphor for life itself—understood as a continuous voyage. In this way, the “reader of the world” is set in motion—just like the Earth itself in the heliocentric systems of Copernicus and Galileo (BLUMENBERG 2022, 87).

contemplative style rich in Baroque complexity) were deeply entwined with an awareness of the transience of life, the unreliability of memory, and the residual nature of material things, which the Book of the World reveals only in fragmentary form. Browne also believed that the pagans were better at reading the signs of divine presence in the world than Christians, who had lost sight of nature's spiritual significance. In *Religio Medici* (1643), he affirmed that both Scripture and nature (an open book of creation accessible to all) could reveal God:

Thus are there two bookes from whence I collect my Divinity; besides that written one of God, another of his servant Nature, that universall and publik Manuscript, that lies expans'd unto the eyes of all: those that never saw him in the one, have discovered him in the other: This was the Scripture and Theology of the Heathens. (BROWNE 1967, 21)

One of the final major invocations of the medieval doctrine of the two books in natural philosophy may be found in *Biblia naturae* (originally *Bybel der Natuure*) by Herman Boerhaave (NOBIS 1971, 957)—a physician and humanist. Published in 1737–1738, the work was a posthumous edition of Jan Swammerdam's microscopic studies on insect anatomy. Although Swammerdam did not manage to publish his *opus magnum* before his death, and the manuscript remained unpublished for many years, the recurring title *Biblia naturae* in his notes was ultimately adopted by Boerhaave, who had acquired the manuscript and prepared it for print (JORINK 2010, 226). The title itself reveals the ambition of the work: not merely to compile observations, but to continue the tradition of viewing nature as a second scripture, authored by God. The flourishing interest in the insect world in the seventeenth century (especially among Dutch microscopists) should be understood not only as a manifestation of the development of modern science, but also as an extension of the theological-symbolic reading of creation. In the *liber naturae* tradition, not only the great cosmic phenomena but also the “small print” (JORINK 2010, 183) of creation—microscopic forms of life—acquired particular significance, being regarded as equally admirable expressions of divine wisdom as the greatest of God's creatures. Robert Hooke's perspective aligned with this view: his richly illustrated *Micrographia* (1665) stands as a striking example of a modernised and scientific reinterpretation of the Book of Nature (HOOKE 1665).⁷

⁷ See also HAWKES and NEWHAUSER (2013). The volume contains articles dedicated to medieval and Renaissance variations on the Book of Nature, understood as a collection of “natural” signs present in the landscape, the body, animals, and ethnographic phenomena—explored across religious, medical, botanical, and political contexts.

Another important chapter in the history of the *liber mundi* tradition is its Enlightenment and pre-Romantic manifestation, which includes the reinterpretations proposed by Hamann, Herder, Goethe, and Novalis. Johann Georg Hamann's conception fuses theology with a mystical philosophy of language. In his famous cabbalistic text, *Aesthetica in nuce* (1762), he writes:

The book of creation contains examples of general concepts which GOD wished to reveal to creatures through creation. The books of the covenant contain examples of secret articles which GOD wished to reveal to man through man. The unity of the Author is mirrored even in the dialect of his works—in all of them a tone of immeasurable height and depth! (HAMANN 2007, 75)

German philosophy in the late seventeenth and early eighteenth century was deeply rooted in the tradition of reading the Book of Nature as a way in which God speaks to humanity. This conviction united theological, philosophical, and scientific threads—and in this context, Benedict Spinoza emerged as a particularly influential authority. Johann Gottfried Herder, drawing on Spinoza, develops a romanticised strand of physico-theology, in which nature becomes not a mirror of the divine, but its living symbolic articulation. In this framework, nature does not merely reflect the divine, but it becomes its expression: natural phenomena are interpreted as “natural laws of God's household”, symbols of ultimate reality, not simply images or imitations of divinity. In doing so, Herder transfers the traditional notion of symbolism (rooted in the theological exegesis of Scripture) onto the Book of Nature, interpreting natural phenomena as symbolic manifestations of divine wisdom and order (PÄTZOLD 2006, 165–66). Johann Wolfgang von Goethe, continuing in this spirit, lends the Book of Nature an even more visionary, lyrical, and emotionally charged expression. In *Sendschreiben* (1774), he writes: “See, thus is Nature a living book/Whose sense may be taken, though oft mistook;/For in thy heart is the wish, strong and deep,/That all the joys that the world may keep,/All the sunshine, and every tree,/Each dream and every coast of the sea,/In thy heart to gather them one and one...” (quoted in CURTIUS 2013, 325). For Novalis, too, nature reveals itself as a polyglot text—mathematical, sacred, and poetic—whose hieroglyphic signs demand an interpretive sensitivity attuned to mystery. In this perspective, nature is not simply an open book, but a secret, intricate text whose language must be acquired (WOOD 2006, 167).

In a sense, the medieval metaphor of the Book of Nature was carried forward—transposed into a biological key—by contemporary genetics, grounded in the techniques of modern laboratory science. As Blumenberg points out,

already at the end of the nineteenth century, Friedrich Miescher, the discoverer of nucleic acid, compared the diversity of chemical structures to an alphabet whose combinations allow for the inscription of the entire complexity of inheritance, like a language of nature expressing the laws of life. For decades, the metaphor of the “biochemical alphabet” defined the horizon of genetic research before gradually shifting toward other domains of scientific imagination: from the speech of nature to its rewriting. Thus, the *liber naturae* tradition not only endured within the framework of modern science, but culminated when humanity took on the role not merely of reader, but of “rewriter” of the natural text (BLUMENBERG 2022, 331–32).

Viewed through the lens of “biological grammar”, it is striking to consider that its most ancient prefigurations lie in the biblical imagination. The most frequently cited scriptural foundations for the metaphor of the Book of the World are found in Ezekiel and Revelation:

“But you, son of man, listen to what I say to you. Do not rebel like that rebellious people; open your mouth and eat what I give you.” Then I looked, and I saw a hand stretched out to me. In it was a scroll, which he unrolled before me. On both sides of it were written words of lament and mourning and woe. (Ezek. 2:8–10)

Then I saw in the right hand of him who sat on the throne a scroll with writing on both sides and sealed with seven seals. And I saw a mighty angel proclaiming in a loud voice, “Who is worthy to break the seals and open the scroll?” But no one in heaven or on earth or under the earth could open the scroll or even look inside it. (Rev. 5:1–3)

According to Costica Bradatan, however, the theological grounding of the *liber mundi* metaphor lies above all in the Prologue to the Gospel of John and in the First Letter to the Corinthians (BRADATAN 2006, 58). The Johannine passage proclaims: “In the beginning was the Word, and the Word was with God, and the Word was God. He was with God in the beginning. Through him all things were made; without him nothing was made that has been made” (John 1:1–3). As Bradatan observes, the term “Word” translates the Greek *logos*, which encompasses both *verbum* and *ratio*. From this perspective, the world appears not only as something “readable” but also as “reason-able”: if God is *Ratio* and has created the world, then nature itself is likewise rational. As a result, the interpreter—whether theologian, philosopher, scientist, or simply a believer—not only has access to the world but is granted the possibility of “grasping”, understanding, and knowing it as it truly is. Our reason as a cognitive faculty recognises itself in the ontological order of things, in a world created by “Supreme Reason”. Thus, from its very inception, the Book of Nature appears

not only as a path toward knowledge of God, but also as a means of “self-recognition” (BRADATAN 2006, 58–59).

The second biblical passage highlighted by Bradatan comes from St. Paul’s letter: “For now we see only a reflection as in a mirror; then we shall see face to face. Now I know in part; then I shall know fully, even as I am fully known” (1 Cor. 13:12). In this perspective, as Bradatan writes, the world appears as a system of symbols that we are called to decipher. The reader of the Book of Nature apprehends reality *per speculum* and is tasked with transcending the illusion inherent in mirrored perception (2006, 59). In this context, knowledge is not merely a matter of reading; it entails a movement beyond the veil of reflection and toward an eschatological encounter. Thus, the metaphor of the Book of Nature articulates not only an epistemological model, but a theological trajectory: the tension between the obscured vision “through a mirror” and the desire for face-to-face clarity.

2. THE MEDIEVAL *LIBER NATURAE*: A CATOPTRIC METAPHOR

Paul’s closing words, “For now we see only a reflection as in a mirror,” set both the epistemological boundary and the spiritual horizon for interpreting the world. It is in this light that the theological character of the medieval *liber mundi* metaphor must be understood: rather than speaking in its own right, nature serves as an echo of a higher truth. Individual creatures are not autonomous entities, but signs, traces, and vestiges pointing beyond the world—toward its Divine Author. God is envisioned as both the artisan and the scribe of the world’s text, while the human being is its reader and interpreter, tasked with deciphering the encoded message of creation. Within this framework, nature is conceived as a form of revelation: a place where an encrypted message about God Himself is hidden. World-reading under this theological paradigm is not so much an empirical enterprise as a spiritual hermeneutic: a movement toward the veiled *Logos* whose signs dwell in creation.

The medieval *liber naturae* metaphor rested not only on the theological premise that nature points toward God, but was also sustained by the visual potency of imagery drawn from allegorical modes of reading. Allegoresis—practiced simultaneously in the reading of both Scripture and nature—enabled the reader to pass from the surface of words to the reality of things, from the literal meaning to the spiritual sense of visible phenomena. In this context, reading nature and reading Scripture were mutually reinforcing paths within

a shared exegetical framework, and the understanding of nature formed part of a broader hermeneutic practice grounded in analogy, symbol, and revelation. As Peter Harrison observes, it was only with the Reformation and Renaissance humanism—both of which discredited allegory in favour of grammatical reading—that this hermeneutic unity was disrupted. From that moment on, nature began to be treated as an autonomous object, no longer directly referring to transcendence, but open to classification according to secular “principles of taxonomy and mathesis”. With this shift, its catoptric (mirror-like) dimension faded: it no longer reflected a higher reality and forfeited its role as a *speculum* of divine order. It could now, however, become an “independent” and “liberated” book, readable without reference to Scripture. Thus, it was not only the metaphor that changed, but the entire paradigm linking natural and divine knowledge (HARRISON 2006, 6–7).

The early modern rupture between the Book of Nature and Holy Scripture casts into sharp relief the distinctiveness of the medieval worldview, which perceived nature as a hermeneutic cosmos composed of signs. In the Platonic-Christian tradition of the Church Fathers, the visible world did not appear as an autonomous reality but as a ciphered message—an order of sensuous signs leading beyond themselves.⁸ The aim of the reader of nature was thus not to acquire knowledge of the things themselves, but to penetrate their external appearance in search of what was symbolised. Nature as a Book was a path toward transcendence, one that required a spiritual exercise of interpretation: from *signum* to *signatum*, from the sensory sign to its hidden referent. As St. Augustine wrote, the firmament itself is “the authority of ... divine Scriptures”—an opaque veil in which the heaven “is spread out like a canopy of skins above us”, and where “words in which no note of discord jars” serve both as a vehicle of revelation and a lens for the inward gaze. God, Augustine adds, “made for us the firmament”, so that we might gaze upon His textual work and recognise in it His “unchallengeable decrees” (AUGUSTINE 1961, 321–22).

The world, therefore, is not only created by God, but—being imbued with meaning—also remains open to interpretation. This symbolic hermeneutics of the world reaches particular maturity in the writings of St. Bonaventure, for whom the knowledge of creation constitutes the first stage on the spiritual path

⁸ Cf. JUURIKALA (2025), where the key features of the early Christian concept of the *liber naturae* are identified: its grounding in Paul’s idea of knowing God through creation (Rom. 1:20); the contemplative rather than deductive nature of reading the world; the emphasis on the soul’s inner disposition (purity of heart) as a condition for understanding; and the intuitive, sensory perception of God’s traces in the power and beauty of nature. This approach is exemplified, among others, by St. Augustine.

toward God. In the *Itinerarium mentis in Deum*, nature is neither an autonomous reality nor an object of neutral observation, but rather a space of symbolic theology (*theologia symbolis*): the beginning of knowledge that arises from the contemplation of the visible traces (*vestigia*) of the Creator.⁹ Everything the human being encounters in the sensory world bears the quality of a sign: things are not given to capture attention in themselves, but to direct it beyond themselves. They are “reminders”—physical testimonies of the divine presence—and as such, they cannot be regarded merely as “natural phenomena” devoid of transcendent significance (BRADATAN 2006, 65). The act of cognition, which does not stop at the external form of things but discerns their symbolic functions, represents for Bonaventure a necessary first step toward the fullness of theological vision. In this way, the world—though sensuous—remains potentially permeable to contemplative insight capable of perceiving in it the mark of God’s self-revelation.

The symbolic character of knowledge, central to the Platonic-Christian reading of the Book of Nature, involved not only the interpretation of signs leading toward transcendence, but also the acknowledgment of the epistemic limitations inscribed into the very act of vision. Sensory and intellectual cognition is always partial and mediated, like seeing through a mirror. The already-quoted passage from Paul’s First Letter to the Corinthians (1 Cor. 13:12) serves as the archetype for a catoptric figuration of symbolic knowledge: *Videmus enim nunc per speculum in aenigmate, tunc autem facie ad faciem; nunc cognosco ex parte, tunc autem cognoscam, sicut et cognitus sum*. It portrays the world as a veiled reality, perceived “as in a mirror” (*per speculum*), “in an enigma” (*in aenigmate*)—that is, indirectly, obscurely, in the form of a riddle requiring interpretation. The mirror metaphor expresses the limits of human knowledge: we know “in part” (*ex parte*), through signs and reflections that are not identical with truth itself, but only point toward it. True knowledge will only be possible in the fullness of eschatological fulfilment—“face to face” (*facie ad faciem*)—as direct, total understanding, corresponding to the way we are already known by God. In this sense, all visible reality appears as a mirror which offers not vision, but reflection: enigmatic and incomplete.

⁹ “Sed quoniam circa speculum sensibilium non solum contingit contemplari Deum per ipsa tanquam per vestigia, verum etiam in ipsis, in quantum est in eis per essentiam, potentiam et praesentiam” (We may behold God in the mirror of visible things, not only by considering creatures as vestiges of God, but also by seeing Him in them; for He is present in them by His essence, His power, and His presence). ST. BONAVENTURE, quoted in BRADATAN (2006, 65).

Although the famous passage from St. Paul contains no explicit references to writing, reading, or the metaphor of the book, the subsequent medieval tradition developed a suggestive analogy between the idea of the *speculum* (mirror) and that of the *liber* (book) (BRADATAN 2006, 59–60). This connection is illustrated in a frequently cited line from the poem by Alan of Lille: “Omnis mundi creatura,/Quasi liber, et pictura/Nobis est, et speculum” (The whole created world/Like a book and a picture,/Serves us as a mirror) (quoted in HARRISON 2006, 5). Here, nature appears as both visible and legible: a reality that reflects truth in a mediated form and demands interpretation. In this light, the *speculum* assumes a hermeneutic function: the mirror not only reflects things but becomes a space of symbolic disclosure. In other words, it operates as a medium of revelation that calls for attentive “reading” of the meanings inscribed in the created world.

In the medieval and post-medieval tradition, the metaphor of the *speculum* not only retained its hermeneutic power but also extended its reach into other domains of knowledge—most notably the idea of the encyclopedia as a mirror-like microcosm. Vincent of Beauvais, the author of the *Speculum maius* (Great Mirror) and one of the most important encyclopaedias of the Middle Ages, conceived of his work as a kind of “book of books”: a mirror of creation and at the same time an instrument for speculative contemplation and imitation of divine order (BRADATAN 2006, 60). A similar idea is expressed by St. Augustine, who wrote in the *Confessions*: “Now we see your Word, not as he is, but dimly, through the clouds, like a confused reflection in the mirrors of the firmament” (AUGUSTINE 1961, 323). Such a vision, although imperfect, remains a form of revelation: through the *speculum*, a partial unveiling of the superabundant truth inscribed in creation becomes accessible. In Thomas à Kempis’s *Imitatio Christi*, we find an explicit fusion of both metaphors—that of the book and that of the mirror: “If thine heart were right, then every creature should be to thee a mirror of life and a book of holy doctrine” (*Si rectum cor tuum esset, tunc omnis creatura speculum vitae et liber sacrae doctrinae esset*) (quoted in BRADATAN 2006, 82). Nature thus becomes a site of contemplation and spiritual instruction, requiring both inner insight and interpretive reading. In Michel de Montaigne, by contrast, this idea assumes a secular tone in the spirit of Renaissance humanism: “This great world ... is the mirror into which we must look in order to know ourselves properly. In sum, I want it to serve as my pupil’s book.”¹⁰ In this way, the vision

¹⁰ “Ce grand monde ... c’est le miroir où il nous faut regarder pour nous connaître de bon biais. Somme, je veux que ce soit le livre Ce grand monde ... c’est le miroir où il nous faut regarder pour nous connaître de bon biais. Somme, je veux que ce soit le livre de mon écolier de mon écolier” (MONTAIGNE, quoted in CURTIUS 2013, 322).

of the world as both *speculum* and *liber* intertwines the path of self-knowledge with the contemplation of the created world—both of which point toward a truth whose mirrored reflection always contains a trace of something beyond.

To sum up, the medieval conception of the *liber naturae* was grounded in a deeply symbolic and theologically anchored vision of the world as a created text: a book of signs and testimonies which, in their imperfection and opacity, point toward the ultimate divine reality. In this framework, catoptric metaphors played a central role. Nature appeared as a mirror in which God reveals Himself to creation—not directly, but through allegorical, symbolic, and reflected forms. This mirror, however, was no transparent surface: the clouded firmament of words revealed the world *in aenigmate*, compelling the human reader to a spiritual labour of interpretation. The connection between *speculum* and *liber* formed a subtle interplay between intellectual inquiry and spiritual insight: from the reading of natural signs, through their allegorical deciphering, to the eschatological anticipation of seeing *facie ad faciem*. From this perspective, both the world and the book remained imperfect forms: pointing beyond themselves, toward a reality yet to be revealed.

3. LETTERS, KABBALAH, AND CATOPTRICS: FRANCIS BACON'S INTERPRETATION OF NATURE

Among the more subtle yet profound dimensions of the *liber naturae* metaphor lies its connection to the idea of the letter and the alphabet of nature. The philosophical history of this notion reaches back to Platonic times, where the term *stoicheia* (sing. *stoicheion*), which originally referred to the letters of the alphabet, is employed in the *Timaeus* (48b) to denote the four elemental constituents of reality: fire, water, air, and earth: “People talk as if it were clear what fire and so on are and take them to be the principles and letters [*stoicheia*], so to speak, of the universe, when in actual fact they shouldn’t even be compared to syllables” (PLATO 2008, 39; see also BRADATAN 2006, 57–58). For Plato, the elements are not linguistic but cosmological in character: they are the basic constituents of the visible and material world, regarded as both the physical substratum and the metaphysical scaffolding of reality. Yet the etymology of *stoicheia* already suggests the possibility of a semantic shift: what is elementary in a cosmological sense may also be elementary in the sense of writing—as letters that form words. One could therefore argue that already in the original Platonic tradition, the world is conceived as a structure composed of units that

can be ordered, arranged, and read, as though forming a hidden text of nature written in the elementary alphabet of things.

The motif of nature as a text composed of letters—not merely in a symbolic sense, but in an ontological one—was eagerly taken up in early modern literary and theological reflection. In this perspective, letters become elements of reality itself, carriers of meaning inscribed in the very order of creation. As Luis de Granada wrote in his *Simbolo de la fé* (1585), all of creation is like “scattered and illuminated letters” (*letras quebradas y iluminadas*), through which “the skill and wisdom” (*primor y la sabiduría*) of the divine Author is revealed. The universe thus appears as a book composed of “living letters” (*letras vivas*), from which one may “read the perfection of the Creator” (*leyesemos la excelencia del Criador*) (quoted in CURTIUS 2013, 320). A similar idea is developed by Francis Quarles in his *Emblems* (1635), where he asserts that the world “is a book in folio”, printed with “God’s great works in letters capital”, and that “each creature is a page” of this *liber* (quoted in CURTIUS 2013, 323). From this perspective, nature does not merely resemble a text—it is itself a script: a medium of divine meaning made manifest in the material order of the world.

Within the broader reflection on the world as text, one of the most evocative and intellectually rich variants of the *liber naturae* metaphor is that shaped by the Kabbalistic tradition. Although the motif of the Book of Nature is most commonly associated with Christian Neoplatonic symbolism, it also possesses a distinctive and fully articulated counterpart within Hebrew thought—in the form of the *Book Yetsirah*, or *Book of Creation*. As Gershom Scholem writes, Talmudic and Midrashic texts speak of a secret book containing the “instructions for [magical] creation”, through which God is said to have brought the world into being by means of letters. In the Kabbalistic imagination, the letters of the Hebrew alphabet are not merely signs of speech but vehicles of substantial creative power. The act of creation consisted in the combinatorial manipulation of letters—more precisely, the letters of the divine name. Since at least the third century CE, this idea has stood as a foundational axiom of Jewish esotericism: God creates through His name, and that name is composed of letters (SCHOLEM 1996, 166–67).

The *Book Yetsirah*, composed between the third and sixth centuries CE, stands as a foundational text of this tradition. Its author—likely a Jewish Neopythagorean—assigns a fundamental cosmic role to the twenty-two consonants of the Hebrew alphabet. These letters are the very elements from which the world is woven. As we read in the second chapter of the *Book of Creation*:

Twenty-two letter-elements: He outlined them, hewed them out, weighed them, combined them, and exchanged them [transformed them in accordance with certain laws], and through them created the soul of all creation and everything else that was ever to be created.... and thus it results that everything created and everything spoken issue from one name. (quoted in SCHOLEM 1996, 168)

According to this vision, letters do not merely name things; they constitute them. They are the building blocks of creation, its fundamental structural units. In this tradition, every being bears a unique signature—a singular configuration of letters. The Hebrew designation of letters as “elementary” reflects the same dual meaning found in the Greek *stoicheia*: both “letters” and “elements” (SCHOLEM 1996, 168). In this sense, the world does not merely speak; it is language itself, woven from a mystical alphabet. The Book of Nature thus appears not as a description of creation, but as creation’s very ontological fabric.

Although the tradition of reading nature as a collection of elemental letters originates in Platonic thought and is elaborated in the Kabbalistic conception of creation through combinations of the divine name, it assumes a new—and to some extent secularised—dimension in the philosophy of nature developed by Francis Bacon.¹¹ Bacon does not abandon the symbolism of writing; on the contrary, he incorporates it into the project of empirical inquiry, redefining its significance in accordance with early modern epistemology. In place of the mystical identification of letters with the divine act of creation, there emerges the concept of the “alphabet of nature”, which must be deciphered not through illumination or contemplation, but through systematic observation and experimental analysis of phenomena. Just as in the Kabbalistic tradition the letters of the Hebrew alphabet generate the laws of nature embedded in the plan of creation (and knowing them grants insight into the essence of things) so too, for Bacon, the alphabet of nature consists of “forms”: the simplest and most irreducible principles of nature, whose combinations give rise to physical phenomena, much like letters combine to form words.¹² The alphabet of nature thus becomes a tool of the new science—a domain of methodical investigation:

¹¹ On Francis Bacon’s indebtedness to the Christian-Kabbalistic and occult traditions, as well as his fusion of the project of scientific renewal with esotericism in *The New Atlantis*, see YATES (1980, 174–75).

¹² For a more detailed analysis of the presence of the Book of Nature tradition in Bacon’s writings and the influence of Kabbalistic ideas, see WEWIÓR (2017, 260–303).

interpretatio naturae, that is, the “translation” of the world by means of logical inference and experimental practice.¹³

The concise yet intellectually resonant fragment by Francis Bacon entitled *The Alphabet of Nature* reflects his conception of nature as a legible order—something akin to a text or a book. This piece remained unpublished during Bacon’s lifetime; the manuscript, preserved by his chaplain Dr. William Rawley, eventually came into the possession of Dr. Thomas Tenison, who included it in the 1669 collection *Baconiana*. Though fragmentary and unfinished, *The Alphabet of Nature* sketches a methodological programme for the systematic study of nature, grounded in the notion of an “alphabet” composed of elementary forms and conditions of existence. Bacon enumerates six “Greater Masses”—earth, water, air, fire, the heavens, and meteors—as well as six “Transcendental Beings”, such as existence and non-existence (“Fourfold Alpha”), possibility and impossibility (“Fourfold Beta”), much and little (“Fourfold Gamma”), and durable and transitory (“Fourfold Delta”). The method he proposes entails the careful collection and organisation of empirical observations into tables and records, which are to serve as a provisional scaffolding for the future interpretation of nature. At the same time, Bacon underscores the tentative character of this endeavour: true understanding requires continuous labour, divine guidance, and a sustained commitment to experimental inquiry (BACON 1669; see also CLODY 2011).

Bacon elaborates on the idea of the alphabet of nature not only in the fragment *The Alphabet of Nature*, but also in the foundational works of his philosophical project—*Instauratio Magna* and *Novum Organum*. In his view, nature is composed of elementary forms and forces that function like the letters of an alphabet: all phenomena accessible to individual experience arise from their combinations. These “letters” correspond to formal causes and, as such, belong to the domain of metaphysics which—unlike scholastic speculation—ought, in Bacon’s opinion, to focus on the investigation of the actual structures and orders of nature. As Bacon writes, they bear “just the same relation to things and works which the letters of the alphabet have to speech and words” (BACON 1999, 82). This implies that knowledge of nature consists in deciphering its internal configurations and in identifying the laws and causes that govern the generation of complex beings from simpler structures.

Another notable instance in which Bacon returns to the *liber naturae* metaphor appears in his treatise *The Natural and Experimental History for the Foundation*

¹³ The idea of man as the “servant and interpreter of Nature” is already expressed in the first aphorism of *The Interpretation of Nature and the Kingdom of Man* in the *Novum Organum*; see BACON (1999, 89).

of Philosophy. Here, he calls for the abandonment of speculative systems that “preferred theses to hypotheses, led experience captive, and triumphed over the works of God”, and instead advocates a humble, reverent reading of nature. He urges us “to approach with humility and veneration to unroll the volume of Creation, to linger and meditate therein”—that is, to open the book of creation and contemplate its contents without the burden of prior assumptions. This “volume of Creation” is no longer a revelation confined to symbolic form but rather an open field of empirical investigation. Bacon exhorts researchers “with minds washed clean from opinions” to take up anew the laborious reading of nature, learning it as children learn the alphabet: “becoming again as little children, condescend to take the alphabet of it into their hands.” In this view, science becomes an act of patient reading and interpretation of “that sound and language which went forth into all lands” (BACON 1999, 212), the universal speech of nature untouched by the confusion of Babel.

In Bacon’s philosophy, the idea of *liber naturae* undergoes a profound transformation, even though its mediating structure between the world and God remains intact. As in medieval natural theology, this version of the Book of Nature does not reveal the divine essence itself, but rather the forms through which the world was created: the power of God, the order of things, and His design for humankind. Nature speaks in a language addressed to the senses, yet its message is encrypted, concealed within the structure of phenomena and forces. The scholar’s task, therefore, is not merely to obtain empirical data, but above all to translate them—to discern the forms and principles that govern the world. Just as a written text requires exegesis, so too does nature call for methodical interpretation. The knowledge of nature is a process of translating its secret language, in which the “letters” (that is, the formal causes) not only describe reality but also enable its effective transformation. It is this knowledge—hidden within the structure of things and made accessible through experiment—that forms the foundation of a new power over nature. Bacon’s experimental method thus emerges as an instrument for translating the language of creation: an active exegesis whose aim is not only understanding, but also the practical mastery of the world and the application of natural laws.

It should also be emphasised that Bacon’s reinterpretation of the *liber naturae* preserves a structural resemblance to medieval natural theology, while at the same time profoundly reworking the catoptric legacy of that tradition. The *speculum*—the sensory perception of reality—continues to play a central role; yet, as in the writings of the Church Fathers, the sensuous image of nature remains obscure and fragmentary, calling for interpretation. For Bacon, the senses are a necessary

and inescapable point of departure, but their testimony must be processed by reason and subjected to critical exegesis. As he writes, just as “an uneven mirror distorts the rays of objects according to its own figure and section, so the mind, when it receives impressions of objects through the sense, cannot be trusted to report them truly, but in forming its notions mixes up its own nature with the nature of things” (BACON 1999, 80). The mirror does not reflect the world faithfully; rather, it deforms its image—thereby revealing the need for further interpretative effort. Bacon does not abandon the catoptric image but reassigns its function: no longer the *telos* of knowledge, it becomes the initial stage that requires further refinement. In this sense, *speculum* and *liber* coexist within the project of the “Great Instauration”: the former provides the sensible images, while the latter—through experimental exegesis—reveals the hidden structures beneath. The knowledge of nature thus becomes a work of both perception and translation: only through the union of sensory reflection and rational reading does nature emerge as a truly knowable reality.

The empiricist project inaugurated by Bacon entailed a thorough reform of the means by which nature was to be known—a reform that extended to the very faculty of vision. His limited trust in the eye as an imperfect *speculum* found expression in a range of epistemic strategies: “communal witnessing, networks of trustworthy observers, experimental methods, instruments that overcome the inherent limitations of the senses”—all aimed at developing a “reformed interpretation of nature” (HARRISON 2006, 4). Bacon’s suspicion of passive optical perception was mitigated through an interpretative inductive method, involving the collection of data, its systematic organisation, and the derivation of general laws of nature. In contrast to this epistemology of aided vision (whose most emblematic expression would later be the microscopic “variants” of the Book of Nature, such as Hooke’s *Micrographia*), George Berkeley took a different path. His distrust of vision, which he regarded as deceptive and detached from immediate experience, led him to shift the cognitive emphasis to touch. As a result, Berkeley’s *liber naturae* ceases to be a catoptric book and becomes a haptic one: no longer read through reflection, but grasped through direct, embodied contact.

4. BERKELEY’S AESTHETICS: THE HAPTIC *LIBER MUNDI*

Although Francis Bacon and George Berkeley differ in their assessments of the cognitive role of the senses as well as in their ontological premises, they

share a common affiliation with the broadly conceived tradition of empiricism. For Bacon as well as Berkeley, nature is not simply a collection of things but a language whose meaning requires interpretative effort. Berkeley attributes epistemological significance to the senses—especially touch—but only insofar as perception is grounded in a divine ordering of relations between ideas. Bacon, by contrast, treats the senses as instruments of empirical inquiry, fallible yet indispensable. Both thinkers view sensory experience as the foundation of knowledge, while also interpreting the world in semiotic terms: as a system of signs that must be deciphered. Crucially, this semiotic conception of nature is framed within the theological metaphor of the *liber naturae*: for both philosophers, the world is a work of God, a revelation of divine law or intention, and the knowledge of nature becomes an act of reading the divine order. The key difference lies in the means and structure of this interpretative act: in Bacon, reason and experiment guide the successive stages of deciphering nature and translating its formal “letters”, whereas in Berkeley, the senses are meaningful only insofar as they perceive divine speech, whose very structure takes the form of a sign-system.

Although Berkeley’s philosophy unfolds within the framework of modern empiricism and radically challenges the existence of material substance, it preserves the core metaphysical assumptions that, for centuries, underpinned the relevance of the *liber mundi* metaphor. As Bradatan observes, in Berkeley’s view, the world is not only created by God but is continually spoken by Him—sustained in being through a divine linguistic act that is both creative and performative. Nature thus appears as divine discourse: a coherent and purposeful structure of signs, in which every phenomenon functions as a *signum* referring to a specific *signatum*, as determined by the Creator’s intention. The relationship between God and the world assumes the form of an authorial model: God is the source of meaning, and humanity is its reader, called to interpret reality as a manifestation of divine design (BRADATAN 2006, 84). Although Berkeley introduces important shifts within this symbolic framework, he does not abandon its essential structure. On the contrary, his thought remains situated within the same theocentric and hermeneutic horizon that shaped the reflections of the Church Fathers and medieval thinkers.

Beginning with his early philosophical work, *An Essay towards a New Theory of Vision* (1709), Berkeley develops the concept of the world as a language: a structure of signs, whose perception constitutes our only and immediate access to reality (BERKELEY 1996, 1–70; BRADATAN 2006, 72). Contrary to the common belief that the senses provide contact with material substance, Berkeley

argues that what we actually perceive are immaterial signs—perceptual forms that are not things in themselves, but symbols in which all accessible reality is contained. To exist is to be perceived (*esse est percipi*); therefore, the availability of being is confined to its semiotic transparency to the mind. As Berkeley writes in his later work *Siris: A Chain of Philosophical Reflexions and Inquiries* (1744):

the phenomena of nature, which strike on the senses and are understood by the mind, form not only a magnificent spectacle, but also a most coherent, entertaining, and instructive Discourse and to effect this, they are conducted, adjusted, and ranged by the greatest wisdom. This Language or Discourse is studied with different attention, and interpreted with different degrees of skill. (BERKELEY 1953, 121)

Nature here appears as a divine utterance—a structured order of signs instituted by God and addressed to the human mind, which must learn to interpret its meaning. Berkeley's natural philosophy is grounded in the conviction that the world is a text, and that the task of the philosopher is not to construct explanations in terms of mechanical causality, but to discern the order of signs composed by God as the Author of the Book of Nature. In *A Treatise Concerning the Principles of Human Knowledge* (1710), we read that “the connexion of ideas does not imply the relation of cause and effect, but only of a mark or sign with the thing signified” and “it is the searching after, and endeavouring to understand those signs instituted by the Author of Nature, that ought to be the employment of the natural philosopher, and not the pretending to explain things by corporeal causes” (BERKELEY 1996, 114–15). Thus, the theocentric foundation of Berkeley's thought endows philosophy with an exegetical character. In Bradatan's interpretation, the philosophy of the Irish bishop is not merely one among many academic disciplines, but a form of *askesis*—a spiritual practice aimed at reading and making sense of reality. The philosopher thus becomes a “professional reader,” called and authorised to interpret the “cosmic text” (BRADATAN 2006, 77). In this sense, philosophy becomes an existential task: not an inquiry into causes (such as the formal causes understood as letters, as in Bacon), but an act of reading the divine discourse addressed to us.

Moreover, in Berkeley's vision of the *liber mundi*, God is more than a distant creator who once set the world in motion; He remains the immediate and continuous source of its meaning. Thus, the sensory world appears as a language through which God speaks: not as a distant demiurge, but as an ever-present speaker who articulates each individual thing we perceive. God, therefore, did not merely compose the Book of Nature but continuously enunciates it; and

the world does not merely reflect God, but is the very medium through which He communicates. The order of nature is intrinsically semiotic, and the sensible world is a system of meaningful forms referring to God as the ultimate *signatum*. What distinguishes Berkeley's vision from medieval theological thought is the intensification of divine presence: the *Logos* does not simply inscribe the laws of nature once and for all, but speaks them anew in every act of perception (BRADATAN 2006, 73–75). God speaks to us through the world, and this world is no longer a collection of symbolic traces (*vestigia*) pointing toward transcendence. It is a living utterance—one that speaks *hic et nunc* in the language of God and renders Him intimately present. In this respect, Berkeley's philosophy does not so much secularise the Neoplatonic metaphor of the Book of Nature as deepen its spiritual intensity, transforming it into a model of divine immanence in and through perception.

It is important to emphasise that while Berkeley's theological semiotics draws directly from the medieval tradition of *liber mundi*, his position is more aptly captured—following Bradatan's suggestion—by the term *lingua mundi* (BRADATAN 2006, 75). Berkeley not only inherits the motif of the world as a readable text; he reconfigures it dynamically, presenting nature as a living act of speech. Central to this reconfiguration is the category of “visual language”, which provides a key to understanding his notion of divine communication through the sensory world. In the subsequent appendix to *An Essay towards a New Theory of Vision*, entitled *The Theory of Vision; or, Visual Language Shewing the Immediate Presence and Providence of a Deity* (1733), Berkeley explicitly identifies sight as the language of the Author of Nature—a medium through which both the phenomena of the world and the faculty of perception itself are rendered intelligible (BERKELEY 1996, 277–304). What we see with our eyes, then, is not a passive reflection of things, but a form of divine utterance. In *Alciphron* (1732) Berkeley writes that

this Visual Language proves, not a Creator merely, but a provident Governor, actually and intimately present, and attentive to all our interests and motions, who watches over our conduct, and takes care of our minutest actions and designs throughout the whole course of our lives, informing, admonishing, and directing incessantly, in a most evident and sensible manner. (BERKELEY 2003, 102)

Nature, in this light, does not merely allude to God; it speaks directly, sensuously, and affectively. Berkeley expresses this insight with striking clarity:

The great Mover and Author of nature constantly explaineth Himself to the eyes of men by the sensible intervention of arbitrary signs, which have no similitude or connexion

with the things signified;... you have as much reason to think the Universal Agent or God speaks to your eyes, as you can have for thinking any particular person speaks to your ears. (BERKELEY 2003, 99)

Vision—indeed, perception more broadly—ceases here to be a passive act and becomes an experience of language. God, understood as an immediate linguistic presence, is the One who uninterruptedly addresses us through the very fabric of sensory things. And yet, insofar as these things are visible signs, they differ essentially from what they signify. As a result, visual language appears not only as a divine language, but more crucially as an “arbitrary” and even deceptive one—riddled with illusions and appearances. This generates a paradox at the heart of Berkeley’s theology of visual perception: although nature serves as the medium through which God addresses us, it offers signs that never fully coincide with the truth.

It is perhaps for this very reason that Berkeley’s philosophy of perception reveals a marked shift in emphasis from optics to haptics.¹⁴ It is not vision but touch that emerges as the primary and privileged sense in the act of understanding the world and interpreting the meaning of the *liber naturae*. In *An Essay towards a New Theory of Vision*, Berkeley stresses that visual and tactile ideas are incommensurable: they belong to distinct sensory registers, are heterogeneous in nature, and cannot be directly identified with one another. Vision does not provide immediate knowledge of objects but rather serves a mediating function—it produces a system of signs that merely suggest the presence of tactile sensations. The shapes we see thus operate as signs for shapes we touch: they are *signa* in the language of nature, whose corresponding *signata* are tactile ideas. As Berkeley writes: “Visible figures are the marks of tangible figures ... in themselves they are little regarded, or upon any other score than for their connexion with tangible figures, which by nature they are ordained to signify” (BERKELEY 1996, 59). In this sense, vision is not for Berkeley a source of truth, but a code—a system of signs that calls for interpretation within the realm of bodily experience. The Book of Nature, though it appears to be a visual text, is in fact, from this perspective, a haptic one. Its true meaning is disclosed only through touch: the sense of direct contact, embodied proximity, and genuine knowing. The optical *speculum* is here replaced by a dynamic map of tactile signs, whose meaning and validity are confirmed only through corporeal interaction with the world. As Berkeley writes in *An Essay towards a New Theory of Vision*,

¹⁴ A comprehensive account of the haptic dimension in Berkeley’s epistemology is offered by Michalski (2024).

visible things are signs that “are constant and universal, their connexion with tangible ideas has been learnt at our first entrance into the world” (BERKELEY 1996, 60). In *A Treatise Concerning the Principles of Human Knowledge*, he adds that “visible ideas are the language whereby the governing spirit, on whom we depend, informs us what tangible ideas he is about to imprint upon us, in case we excite this or that motion in our own bodies” (BERKELEY 1996, 105).

Ultimately, it is within the theological framework of his philosophy that Berkeley finds the resolution to a seeming paradox: how is it possible that visual ideas—entirely distinct from tactile ones—can nonetheless effectively suggest them and lead to a coherent understanding of reality? The answer he proposes is not logical or conceptual, but theological and semiotic in nature. In *The Theory of Vision; or, Visual Language*, Berkeley writes:

How comes it to pass that a set of ideas, altogether different from tangible ideas, should nevertheless suggest them to us, there being no necessary connexion between them? To which the proper answer is, that this is done in virtue of an arbitrary connexion, instituted by the Author of Nature. (BERKELEY 1996, 294)

This means that the language of nature—the language of visual signs referring to haptic experience—is not the product of our perceptual activity, nor the result of natural necessity, but rather a divine convention. It is God, as the Author and Ordainer of the discourse of creation, who guarantees the intelligibility and cohesion of this sensory semiotics. He is the One who has established the connections between the visible and the tangible, thereby enabling the interpretation of visual signs in terms of embodied action. In this way, Berkeley’s theological immaterialism not only ensures the ontological coherence of the world, but also upholds its legibility as a *liber mundi*: a book composed of signs whose grammar was arbitrarily, yet consistently, arranged by the Divine Author.¹⁵

A key argument confirming the haptic nature of Berkeley’s *liber mundi* can be found in the idea of the *velum*, or translucent veil, which appears in *The Theory of Vision; or, Visual Language*. This metaphorical notion is later taken up by Henri Bergson, who writes in his essay *L’Intuition philosophique*: “It seems to me that Berkeley perceives matter as a *thin transparent film* situated between man and God.” In Bergson’s reading, this membrane does not function as a barrier but as a bodily communicative medium: “matter is a language which

¹⁵ In *Alciphron* we read: “God speaks to men by the intervention and use of arbitrary, outward, sensible signs, having no resemblance or necessary connexion with the things they stand for and suggest: if it shall appear that, by innumerable combinations of these signs, an endless variety of things is discovered and made known to us” (BERKELEY 2003, 92).

God speaks to us” (BERGSON 2007, 97–98). This interpretation reinforces the haptic reading of Berkeley’s *Book of the World*, since the *velum* operates not as an optical surface of reflection but as a tactile presence—a surface through which one participates in, rather than merely observes, the deeper meaning of things. In this way, paradoxically immaterial matter loses its ontological autonomy and acquires new significance as a sensory membrane of transition: a thin, translucent, and meaningful “skin of the world”, through which God addresses us. The haptic character of this metaphor enables us to recognise that the created world is no longer a book to be passively viewed but a space of active interaction—a surface whose meaning reveals itself only through direct, embodied experience.

The trope of the *velum* acquires additional depth when read in light of Berkeley’s geometrical reflections on the perception of size and distance. In a key passage from *The Theory of Vision; or, Visual Language*, he writes:

For the better explication of this point, we may suppose a diaphanous place erected near the eye, perpendicular to the horizon, and divided into small equal squares. A straight line from the eye to the utmost limit of the horizon, passing through this diaphanous place, will mark a certain point or height to which the horizontal plane, as projected or represented in the perpendicular plane, would rise. The eye sees all the parts and objects in the horizontal plane, through certain corresponding squares of the perpendicular diaphanous plane. (BERKELEY 1996, 298)

Here, Berkeley evokes an imagined structure reminiscent of Leon Battista Alberti’s classical *velum*, described in his treatise *On Painting*. For Alberti, the *velum* was a transparent cloth (“a veil woven of very thin threads”) in the form of a square grid, stretched between the eye and the painted scene—an aid for accurately rendering perspectival proportions (ALBERTI 2011, 51). Berkeley’s version of this grid, however, does not serve the purpose of mimetic representation. Instead, it functions as a projective structure: a surface upon which visual signs acquire meaning through their relation to tactile correlates. The projection of shapes and proportions onto this diaphanous grid is not a painterly technique but a cognitive act—an interpretive transposition of visual impressions into haptic meanings. The classical visual pyramid, inherited from geometrical optics, is thus transformed into a semiotic medium: it no longer reflects the world but organises signs so as to make them readable through embodied perception. As Berkeley puts it: “It is true this diaphanous plane, and the images supposed to be projected thereon, are altogether of a tangible nature” (BERKELEY 1996, 299). The key parameters for perceiving size, distance, and spatial arrangement do not, therefore, belong to the visual field as such.

Rather, they are inferred from a structure of tactile signs inscribed into the visual grid of perception. It is thanks to this transparent “textile”¹⁶ of the imagination that the mind is able to impose form and order on the chaos of visual stimuli—not through reasoning, but through a sensuous intuition trained by the experience of touch.

One might ask: does Berkeley’s haptic vision of the *liber mundi* amount to a genuine innovation within the tradition of the *liber naturae*? Not quite. It may be argued that the *liber naturae*, understood as a stretched, inner fabric of the imagination upon which haptic impressions are imprinted in the form of signs, finds a distant yet significant precursor in Augustine’s account of divine language. In a striking passage of the *Confessions*, we read:

And who but you, our God, made for us the firmament, that is, our heavenly shield, the authority of your divine Scriptures? For we are told that *the sky shall be folded up like a scroll* and that, now, it is spread out like a canopy of skins above us.... O Lord, *let us look up at those heavens of yours, the work of your hands*. (AUGUSTINE 1961, 321–22; italics in the original)

Augustine’s metaphor of the book as a “work of hands” and of the heavens as a “canopy of skins”¹⁷—that is, of vellum (*velin*)—opens up a compelling interpretive trajectory, leading from the transcendent vision of a celestial book to the immanent fabric of the imagination. Vellum, the carefully prepared calfskin traditionally used for sacred writing, symbolises the nobility of the revealed Word stretched above the world and unveiled through contemplative reading. It is a *liber caelestis*, a heavenly book which, though crafted by the fingers of God, maintains a distance from corporeality and is accessible only through the optical dimension: the grace of illumination (*lumen*) and the capacity for reflection (*speculum*), grounded in the impermeable surface of the divine mirror. In Berkeley, a significant shift takes place: the transparent membrane of the imagination no longer separates the human being from the heavens, but becomes an immanent surface upon which the sensory order of the world is projected. The *velum* is no longer the sacred parchment written by the divine hand; it is

¹⁶ The etymological kinship between *text* and *textile*—both derived from Latin *texere* ‘to weave’—underscores the material and interlaced nature of meaning. A text, like a fabric, is something woven: a structured surface through which sense is generated.

¹⁷ The quoted passage may be read as an allusion to Psalm 104:2: “The LORD wraps himself in light as with a garment; he stretches out the heavens like a tent” and Psalm 8:3: “When I consider your heavens, the work of your fingers.” In this context, the “hands” or “fingers” belong to the Author of Scripture, metaphorically identified with the heavens (the “firmament”)—a leather canopy, tent, garment, or similar figure.

a dynamic, membranous grid of impressions—an internal lattice of perception through which God does not so much reveal Himself from above as speak directly to the body. The transformation of the *liber mundi* from Augustine to Berkeley thus marks a passage from *velin* to *velum*: from a transcendent, sanctified skin to an immanent, tactile fabric (or even tissue) woven into the very act of perception. The Book of the World is no longer spread above us; it becomes a taut membrane of bodily imagination, through which the voice and touch of the present God resonate.

Finally, it is worth noting that Berkeley's sensualist version of the *liber mundi* introduces a subtle yet significant shift in emphasis: while the Book of Nature remains grounded in a theological framework, its reception is no longer confined to the role of a symbolic guide pointing beyond the world. Instead of a "pure" theology of the sign—subordinated to the principle of mirror-like reflection, in which the sensible world merely served as a dim echo of the spiritual—Berkeley offers a theological aesthetics in which sensory experience (*aisthesis*) is not suppressed. On the contrary, it is sanctified as a direct (and, in Berkeley's view, transparent yet material) vehicle of divine speech. Nature speaks, and its language—full of light, colours, textures, and proportions—is at once aesthetic and theological, corporeal and metaphysical. In this way, Berkeley does not abandon the theological tradition but transforms it into an affirmation of sensuous concreteness: the world perceived as a beautiful and meaningful act of divine–human communication. As we read in *Alciphron*: "In a system of spirits, subordinate to the will, and under the direction of the Father of spirits, governing them by laws, and conducting them by methods suitable to wise and good ends, there will be Great beauty" (BERKELEY 2003, 72). Perhaps it is in this haptic, embodied reading of the world that we find the promise of a new, deeper theology of the senses: one that does not separate soul from body, nor follow the Cartesian path of the disembodied *cogito*, but allows the mind and the senses to resonate together in a concordant act of understanding.

In light of the foregoing reflections, Berkeley's haptic conception of the Book of Nature does not appear as a departure from the theological tradition but rather as its transformation—from a transcendent symbolism into an immanent practice of bodily reading. Instead of directing the gaze toward invisible realities hidden behind a mirror-like surface, the *liber mundi* becomes a space of tangible Presence: a sensory language through which God speaks directly to both body and mind.

CONCLUSIONS

The trajectory traced in this article demonstrates that the metaphor of the Book of Nature undergoes a profound epistemological transformation from the Middle Ages to the eighteenth century. Its point of departure is the symbolic and catoptric worldview in which creation functions as a veiled mirror of divine truth. Medieval thinkers—from Augustine to Bonaventure—conceived nature as a system of signs whose opacity (or *aenigmatē*) was essential to its theological meaning: the world was readable only *per speculum* and its intelligibility required a spiritual hermeneutic oriented toward transcendence.

The early modern period did not discard the metaphor but reconfigured its structure. Francis Bacon still situates the *liber naturae* within a theocentric horizon, yet replaces allegorical symbolism with the methodological discipline of *interpretatio naturae*. By mobilising both catoptric imagery and kabbalistic motifs of the elemental “letters” of creation, Bacon transforms the Book of Nature into an empirical and quasi-linguistic project: a legible order whose grammar must be reconstructed through experiment and the unceasing labour of deciphering the “alphabet of nature”. Importantly, however, the Baconian mirror becomes a preliminary rather than an ultimate medium: sensory appearances are distorted images requiring translation into the deeper structures of forms and laws. The book remains divine, but is readable only through patient observation and the inductive labour by which Bacon sought to interpret nature.

The culmination of this genealogy emerges in George Berkeley’s philosophy, which both inherits and radicalises the *liber naturae* tradition. While remaining deeply theocentric, Berkeley marks a decisive shift from a catoptric to a haptic model of the Book of the World. Nature is no longer a reflective surface pointing beyond itself; it becomes a linguistic and tactile medium through which God speaks directly to human perception. In this *lingua mundi*, visible ideas operate as arbitrary signs instituted by the Author of Nature, and their meaning is anchored in their stable correlation with tactile experience. Berkeley’s epistemology therefore displaces the supremacy of vision—traditionally linked to reading, contemplation, and mirror metaphors—and elevates touch as the primary organ of sensuous immediacy. The world is grasped rather than merely seen; it is no longer a mirror but a diaphanous *velum* through which divine communication occurs.

Taken together, these transformations reveal a gradual movement from transcendence to immanence, from allegorical symbolism to sensory immediacy, and from optical to haptic cognition. Yet this development should not be understood

as a rupture. Rather, Berkeley's haptic Book of Nature represents an intensified continuation of the medieval and early modern tradition: an attempt to preserve the theological core of *liber mundi* while grounding it in the intimate, embodied experience of the perceiving subject. The Book of Nature thus remains a site of divine-human encounter, but one reimagined through the aesthetics of touch.

In this sense, the epistemological history of the *liber naturae* charts not only the evolution of a metaphor but also a long-term reorientation of Western thought: from reading the world as a distant reflection of the divine toward receiving it as a sensuous discourse that addresses the human being here and now. The move from mirror to touch encapsulates a broader shift in the understanding of revelation, perception, and the place of the human subject within creation.

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THE EPISTEMOLOGICAL TRANSFORMATION OF THE BOOK OF NATURE:
FROM MIRROR TO TOUCH

Summary

This article examines the transformation of the metaphor of the Book of Nature from a catoptric to a haptic model of perception. Tracing its biblical and medieval origins, it explores the symbolic and theological frameworks that shaped the traditional view of nature as a divine mirror. Particular attention is given to Francis Bacon's conception of nature as a legible system of signs, influenced by kabbalistic motifs and the catoptric paradigm. In contrast, the final section turns to George Berkeley's immaterialist epistemology, in which nature is no longer a surface of reflection but a medium of

divine communication through touch. This haptic reinterpretation of the *liber mundi* points toward a sensory theology grounded in embodied perception.

Keywords: Book of Nature; *liber mundi*; divine language; alphabet of nature; haptic perception; catoptrics; George Berkeley; theological aesthetics

EPISTEMOLOGICZNA PRZEMIANA KSIĘGI NATURY: OD ZWIERCIADŁA DO DOTYKU

Streszczenie

Artykuł przedstawia analizę przemiany metafory Księgi Natury od katoptrycznego modelu percepcji do modelu haptycznego. Śledząc biblijne i średniowieczne źródła tej tradycji, tekst rekonstruuje symboliczne i teologiczne ujęcia, które kształtowały klasyczne postrzeganie natury w duchu boskiego zwierciadła. Szczególne miejsce zajmuje Francisca Bacona koncepcja natury jako systemu znaków podlegających odczytaniu, inspirowana źródłami kabalistycznymi i modelem katoptrycznym. W kontraście do tego ujęcia, ostatnia część artykułu koncentruje się na immaterialistycznej epistemologii George'a Berkeleya, w której natura przestaje być powierzchnią odbicia, a w zamian staje się medium boskiej komunikacji przez dotyk. Ta haptyczna reinterpretacja *liber mundi* prowadzi ku teologii zmysłów zakorzenionej w ucieleśnionej percepcji.

Słowa kluczowe: Księga Natury; *liber mundi*; Boży język; alfabet natury; percepcja haptyczna; katoptryka; George Berkeley; estetyka teologiczna