

Creaturehood Under Conditions of Optimization: AI and the Externalization of Moral Formation

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Abstract

Contemporary AI systems are increasingly designed to reduce uncertainty, ambiguity, and cognitive burden. This article argues that such systems do not merely expand human capacities but progressively externalize forms of judgment and existential burden that Christian traditions have historically understood as necessary conditions for the cultivation of moral agency. Drawing on the theological anthropologies of Augustine, Søren Kierkegaard, and Dietrich Bonhoeffer, the article develops a theological-anthropological critique of what it terms optimization culture: the normative logic through which the reduction of friction and existential difficulty becomes a dominant telos of technological design. Contemporary articulations of this logic are examined through the work of Jacques Ellul, Byung-Chul Han, Peter Thiel, Balaji Srinivasan, and William Davies. The article argues that AI systems shaped by this logic risk progressively externalizing the practices of disciplined attention, existential responsibility, and costly judgment through which mature moral agency has historically been cultivated. In response, it proposes a formative anthropology of technology as a framework for evaluating AI not only according to functional criteria such as safety or efficiency, but according to the kinds of human beings such systems actively help to form.

Keywords

Theological anthropology, moral formation, artificial intelligence, Christian ethics, optimization culture, creaturehood, moral agency, Augustine, Kierkegaard, Bonhoeffer

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Introduction: The Formative Question

Something significant has changed in the human relationship to difficulty. Across the domains of communication, navigation, decision-making, information retrieval, and emotional management, contemporary technological systems are increasingly organized around the reduction of friction. Predictive systems anticipate linguistic intention before words are fully formed. Recommendation architectures preselect information before it is actively sought. Adaptive interfaces minimize the distance between desire and satisfaction. Emotional support applications provide responses calibrated to affective states. Across these developments, a consistent underlying trajectory is visible: contemporary AI systems increasingly absorb forms of cognitive, interpretive, and existential burden that human beings historically bore themselves.

This trajectory is widely celebrated as liberation—the democratization of expertise, the rational elimination of inefficiency, the dismantling of barriers to human flourishing. Existing work in AI ethics has generated valuable analyses of bias, accountability, transparency, and governance.¹ Yet much of this literature remains primarily concerned with the outputs and consequences of intelligent systems rather than with the anthropological conditions such systems progressively reorganize. Constructive theological engagement with artificial intelligence has also begun to address questions of divine and human relationship in an increasingly automated context.²

This article asks a different question. Rather than asking only what AI systems do, it asks what kinds of persons are formed within environments increasingly organized around the reduction of ambiguity, resistance, waiting, and cognitive burden. The central argument is this: contemporary AI systems increasingly externalize forms of judgment and existential burden that Christian traditions have historically understood as necessary conditions for the cultivation of moral agency. The ethical risk of AI lies not primarily in harmful outputs but in the gradual reorganization of the formative conditions through which human beings become capable of responsible moral judgment at all.

This argument is theological-anthropological before it is technological. It proceeds from the claim that human beings are not simply information-processing agents whose flourishing consists in the efficient satisfaction of preference, but finite and vulnerable creatures formed through practices of attention, burden-bearing, and responsible relation. The article proceeds as follows. Section 2 develops an account of moral formation in Christian theological anthropology, locating the tradition's claims about creaturehood, moral agency, and formation in relation to Augustine, Kierkegaard, and Bonhoeffer. Section 3 analyzes optimization culture as a normative logic embedded within contemporary technological development, drawing on Ellul, Han, Thiel, Srinivasan, and Davies. Sections 4, 5, and 6 develop the theological anthropologies of Augustine,

¹ Luciano Floridi and Josh Cowls, 'A Unified Framework of Five Principles for AI in Society', *Harvard Data Science Review* 1.1 (2019), pp. 1–15; Nick Bostrom, *Superintelligence: Paths, Dangers, Strategies* (Oxford: Oxford University Press, 2014).

² Noreen Herzfeld, *The Artifice of Intelligence: Divine and Human Relationship in a Robotic Age*, rev. edn (Minneapolis, MN: Fortress Press, 2023).

Kierkegaard, and Bonhoeffer respectively in close engagement with the mechanisms of optimization culture. Section 7 synthesizes these analyses into an account of the deformation of moral agency under conditions of optimization. Section 8 proposes a formative anthropology of technology as the appropriate evaluative response.

A clarification is necessary at the outset. The argument developed here is not that difficulty is intrinsically valuable, that technological mediation is inherently corrupting, or that suffering should be embraced indiscriminately. Christian traditions of formation have never understood all forms of difficulty as morally productive. Certain forms of suffering deform rather than cultivate the self. The claim advanced here is narrower and more specific: that some conditions contemporary optimization culture increasingly seeks to eliminate—including ambiguity, uncertainty, existential exposure, and the burden of responsible judgment—have historically functioned as anthropological preconditions for the cultivation of mature moral agency. The systematic externalization of these conditions therefore raises not merely technical or political concerns, but theological and anthropological ones.

Moral Formation in Christian Theological Anthropology

Creaturehood, Agency, and Formation

Christian theological anthropology begins with the recognition that human beings are creatures: finite, dependent, and constitutively oriented toward realities beyond themselves. To be a creature is not merely to possess biological limitations but to exist within a particular ontological relation—receiving being rather than generating it autonomously, oriented toward a good one cannot produce for oneself. This creaturely condition has profound implications for moral formation because it means that the self is not a closed system capable of generating its own moral resources. It requires exposure to what exceeds it.

Moral agency, within this framework, names not the capacity for autonomous self-governance but the developed capacity to act responsibly, attentively, and truthfully within concrete situations of creaturely life. The cultivation of such agency is the task of moral formation. And crucially, Christian traditions have consistently understood this formation as requiring sustained engagement with difficulty, uncertainty, burden, and the irreducible demands of relation. Difficulty is not an obstacle to formation but its medium.

This claim can be initially articulated through Aristotle's account of virtue and practical wisdom. Virtue (*aretē*) names excellence expressed through activity—the actualization of human capacities in ways that constitute genuine flourishing. *Hexis* refers to the stable disposition underlying virtuous action: the acquired orientation of character that makes right action possible. Virtue as *aretē* cannot therefore be understood apart from *phronesis*, or practical wisdom: the cultivated capacity to perceive and judge rightly in particular situations of moral complexity.³ Practical wisdom develops only through

³ Aristotle, *Nicomachean Ethics*, trans. T. Irwin, 2nd edn (Indianapolis, IN: Hackett, 1999), bk VI.

participation in practices of decision-making that expose the agent to uncertainty, error, and responsibility. It cannot be acquired through procedural instruction alone.⁴ As will become apparent in what follows, the concept of phronesis plays a structural role throughout this article's critique of optimization culture: what optimization increasingly externalizes is precisely the burden-bearing exercise through which phronetic judgment is formed.

This Aristotelian framework sets the terms for distinctively Christian accounts of formation. Augustine, Kierkegaard, and Bonhoeffer each take up and transform this classical inheritance in ways that carry significant consequences for the present argument. Each identifies a distinct dimension of moral formation—the reordering of desire, the becoming of the self, and the assumption of costly responsibility—that contemporary optimization culture increasingly risks weakening or displacing.

The Three Theological Traditions

For Augustine, moral formation cannot be understood apart from the structure of desire itself. The human person is a creature constitutively oriented toward God, yet disordered by loves that have become attached to finite goods as though they were ultimate. Formation is therefore not primarily a matter of acquiring correct information or developing correct habits in a technical sense, but of undergoing the painful reordering of love toward what is genuinely good. Grace is not the negation of formation but its enabling condition.

For Kierkegaard, moral formation concerns the existential task of becoming a self before God. Selfhood is not a given but a task—a relation that must actively become itself under conditions of anxiety, inwardness, and irreducible personal responsibility. The self cannot delegate this task to institutions, crowds, or external systems of guidance without suffering what Kierkegaard understands as a form of existential deformation.

For Bonhoeffer, moral formation is located in the concrete demands of historical action and answerability before others. Responsible action cannot be reduced to the application of rules or the following of procedures. It requires a self willing to bear uncertainty, accept burden, and remain exposed to the claims of God and neighbor without procedural guarantees. Formation occurs through costly discipleship rather than comfortable religiosity.

These three theological anthropologies share a structural conviction: the conditions through which mature moral agency develops are not the conditions of maximum comfort, certainty, and burden-elimination, but conditions of sustained engagement with difficulty, uncertainty, and responsible exposure. This shared conviction constitutes the theological-anthropological basis from which the present article develops its critique of optimization culture.

⁴ See also Alasdair MacIntyre, *After Virtue*, 3rd edn (Notre Dame, IN: University of Notre Dame Press, 2007); Alasdair MacIntyre, *Dependent Rational Animals: Why Human Beings Need the Virtues* (Chicago, IL: Open Court, 1999).

Optimization Culture: The Logic of Burden-Elimination

Genealogy: Ellul and Han

Before proceeding to detailed theological analysis, it is necessary to characterize optimization culture with greater precision. The term designates not simply the use of efficient technologies but a normative logic: the implicit organization of technological design, and increasingly of social life itself, around the reduction of friction, ambiguity, delay, cognitive burden, and existential difficulty. Optimization culture is not merely a technical preference but a moral imagination in which the good life is increasingly identified with the frictionless life.

Jacques Ellul's analysis of technique provides an indispensable genealogy for understanding this logic.⁵ For Ellul, *la technique* designates not merely the use of machines but the progressive subordination of all human practices to the imperatives of efficiency, rationalization, and optimized performance. Technique operates as an autonomous logic that colonizes successive domains of human existence—economy, education, politics, relation—reorganizing them according to functional rather than human criteria. The crucial point for the present argument is that technique increasingly renders judgment, patience, and deliberative engagement inefficient, and therefore progressively marginalizes the practices through which such capacities were historically cultivated. Ellul's framework already identifies the anthropological stakes: what is at risk is not merely the transformation of tools but the transformation of the human beings who inhabit a technique-saturated world.

Byung-Chul Han has analyzed the subjective consequences of this transformation with particular acuity.⁶ Late modernity, Han argues, increasingly organizes subjectivity around performance, positivity, and the elimination of what he terms 'the Other': negativity, resistance, slowness, and alterity. The burnout society emerges not from external oppression but from the internalization of a performance imperative that eliminates all forms of inner resistance and sustained attention. For Han, the disappearance of contemplative experience is not a contingent cultural development but the direct expression of an optimization logic that renders slowness, difficulty, and the encounter with what resists immediate productive ends increasingly intolerable. Han's analysis of the 'smooth' as the aesthetic of late modernity—surfaces organized to eliminate friction and invite frictionless consumption—provides a precise phenomenological vocabulary for what optimization culture produces at the level of lived subjectivity.

The Ideological Dimension: Thiel, Srinivasan, and Davies

Optimization culture is not only a techno-social condition but an explicit ideological project with articulate defenders. Peter Thiel's influential account of technological progress

⁵ Jacques Ellul, *The Technological Society*, trans. J. Wilkinson (New York, NY: Vintage Books, 1964).

⁶ Byung-Chul Han, *The Burnout Society*, trans. E. Butler (Stanford, CA: Stanford University Press, 2015); Byung-Chul Han, *The Agony of Eros*, trans. E. Butler (Cambridge, MA: MIT Press, 2017).

identifies the elimination of friction, competition, and resistance as the telos of genuine innovation.⁷ The most significant technological achievements, on this account, are those that achieve monopolistic elimination of alternatives and competitive burden. The ideal outcome is a world in which problems are solved rather than endured. Difficulty appears primarily as a technical challenge awaiting elimination, not as a condition within which valuable human capacities are developed. Thiel's Silicon Valley ethos makes explicit what Ellul identified as an implicit logic of technique: the reorganization of human existence around the conquest of difficulty.

Balaji Srinivasan extends this logic into a comprehensive political vision. His concept of the Network State imagines communities organized around shared optimization goals, in which geographic, legal, and social frictions are progressively replaced by algorithmically mediated coordination.⁸ The individual on this account is primarily a node in a network, intelligible primarily as a preference-bearer whose satisfaction is the terminal value of social organization. Existential difficulty, relational friction, and the demands of place-bound community are reconceived as inefficiencies awaiting technical resolution. What theological anthropology understands as constitutive features of creaturely existence—dependence, vulnerability, the demands of particular relations—appear within this framework as design failures.

William Davies has provided the most searching critical analysis of the subjective dimension of this development, arguing that the competitive performance imperative has progressively colonized social life.⁹ What Davies terms 'the happiness industry' reveals how psychological wellbeing is increasingly operationalized as an efficiency metric, transforming interior life itself into terrain for optimization and performance management. The self becomes intelligible primarily as a system to be calibrated, and difficulty increasingly appears as dysfunction rather than as the medium of formation. Davies's analysis reveals the specifically moral dimension of optimization culture: it does not merely produce new techniques but reorganizes the normative vocabulary through which human flourishing is understood and evaluated. This dynamic is closely related to what Shoshana Zuboff has analyzed as the extraction and behavioral modification logic of surveillance capitalism, in which the interior life of the user becomes raw material for prediction and influence.¹⁰

The Anthropological Significance

Taken together, Ellul, Han, Thiel, Srinivasan, and Davies illuminate optimization culture as a coherent formative logic with specific anthropological consequences. It is not merely

⁷ Peter Thiel and Blake Masters, *Zero to One: Notes on Startups, or How to Build the Future* (New York, NY: Crown Business, 2014).

⁸ Balaji Srinivasan, *The Network State: How to Start a New Country* (self-published, 2022).

⁹ William Davies, *The Happiness Industry: How the Government and Big Business Sold Us Well-Being* (London: Verso, 2015).

¹⁰ Shoshana Zuboff, *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power* (New York, NY: PublicAffairs, 2019).

the development of powerful technologies but the progressive reorganization of the conditions under which human beings form themselves, exercise judgment, and inhabit relation. The question raised by the theological traditions examined in the following sections is whether this reorganization is anthropologically neutral—or whether it systematically undermines the conditions historically understood as necessary for the cultivation of moral agency.

Augustine and Disordered Desire

Curiositas and the Fragmentation of Attention

Augustine's theological anthropology provides the first and most fundamental resource for understanding what is at stake in optimization culture. The opening of the *Confessions* establishes the anthropological foundation: 'our heart is restless until it rests in you'.¹¹ Human beings are creatures constitutively oriented toward a good beyond themselves. The problem is not that they desire, but that desire has become disordered through attachment to finite goods as though they were ultimate. Moral formation therefore requires the painful reordering of love—*ordo amoris*—through grace and through the disciplines of attention and practice. Augustine develops this account of rightly ordered love most fully in his mature political and ethical thought, where the well-ordered soul and the well-ordered community alike are defined by what they love.¹²

The analysis of disordered attention offered in Book X of the *Confessions* carries particular significance for contemporary technological culture. Augustine identifies *curiositas* as a specific pathology of desire: the restless, dispersive orientation toward novelty, stimulation, and endless external occupation undertaken not from love of truth but from avoidance of inward confrontation.¹³ *Curiositas* is not intellectual curiosity but attention's flight from sustained engagement with what might reorder desire. It is the habitual displacement of the self outward, toward surfaces, toward distraction, toward the avoidance of that interior encounter through which transformation becomes possible.

The contemporary resonance of this analysis is striking. The optimized digital environment presents the subject not with silence, resistance, and sustained engagement but with continuous streams of curated content, personalized stimulation, and affective management calibrated to maintain engagement rather than invite inward confrontation. The optimized interface does not demand patience or sustained attention. It anticipates preference, accelerates satisfaction, and smooths away the resistances that historically interrupted the self's dispersive tendencies.

Augustine's insight suggests that this is not anthropologically neutral. The optimized environment does not merely distract; it operationalizes and intensifies a specific

¹¹ Augustine, *Confessions*, trans. H. Chadwick (Oxford: Oxford University Press, 1991), I.1.

¹² Augustine, *The City of God against the Pagans*, trans. R.W. Dyson (Cambridge: Cambridge University Press, 1998), esp. bk XIX.

¹³ *Ibid.*, X.35.

anthropological disorder—the habitual flight from what might reorder desire—at unprecedented scale and intimacy. The risk is not superficial cognitive fragmentation but the progressive weakening of those forms of sustained attention through which phronetic judgment is cultivated. Practical wisdom, as noted above, requires the capacity to perceive and weigh moral features of situations with patience and discernment. An attention chronically organized against sustained inward engagement cannot develop this capacity.

The Defended Self and the Avoidance of Transformation

A second Augustinian category is equally significant for the present argument. Throughout the *Confessions*, Augustine develops a phenomenology of what we may call the defended self: the self organized around the avoidance of those exposures through which transformation becomes possible. In Book VIII, his famous account of the divided will describes the structure of a self that understands its disorder and yet cannot fully enact transformation, because habit has fractured the integrity of willing.¹⁴ Disordered loves form habits that are structurally resistant to change. They organize attention, perception, and desire in ways that protect themselves from encounter with what might unsettle them.

Optimization culture risks intensifying this dynamic at the level of designed environment. Systems oriented toward maximizing user satisfaction, minimizing discomfort, and maintaining continuous engagement construct environments calibrated to the self's existing preferences and dispositions. Recommendation architectures reinforce established patterns of attention. Predictive systems reduce the likelihood of unexpected encounter. Affective management applications smooth the emotional textures within which difficult self-recognition historically occurred. What such systems offer is not merely convenience but a technically mediated form of the defended self: environments that organize experience around the evasion of what might reorder desire.

Augustine's analysis clarifies what is theologically at stake. The problem is not cognitive overload or diminished concentration understood as technical deficiencies. It is the progressive elimination of those encounters, interruptions, and exposures through which disordered loves historically became visible to themselves and thereby became capable of being reordered by grace. The optimized environment is, from an Augustinian perspective, an environment systematically organized against the anthropological conditions of moral and spiritual formation.

Kierkegaard and Anxiety

The Self as Task and the Necessity of Anxiety

Kierkegaard's account of selfhood provides the second major resource for the present argument. For Kierkegaard, the self is not a static substance but a relation that must

¹⁴ Ibid., VIII.

actively become itself. In *The Sickness unto Death*, he defines the self as ‘a relation that relates to itself and in relating to itself relates to another’—a synthesis of finitude and infinitude, necessity and possibility, that must actively assume itself before God.¹⁵ Selfhood is task-like. The self must take up responsibility for what it is and what it becomes. This task cannot be delegated to institutions, crowds, or systems of anticipatory guidance without existential cost.

The category of anxiety is central to this account. In *The Concept of Anxiety*, Kierkegaard describes anxiety as the ‘dizziness of freedom’—the vertiginous condition that arises when the self recognizes the weight of possibility and responsibility.¹⁶ Anxiety is not reducible to pathological fear or neurotic distress. It is the affective register of freedom itself: the condition under which the self stands before genuine possibility and must genuinely choose. To eliminate anxiety entirely would not represent liberation from the human condition but flight from one of its constitutive dimensions. A self protected from the genuine burden of choice does not become freer; it becomes less self.

This analysis carries acute significance under conditions of technological optimization. Systems organized around prediction, personalization, and anticipatory assistance increasingly operate by reducing precisely the uncertainty and burden of possibility that Kierkegaard identifies as the medium of selfhood. The predictive interface reduces the number of genuine choices confronting the user. The recommendation system narrows possibility before deliberation has occurred. The emotional support application mediates difficulty before the self is required to inhabit it. In each case, the burden that Kierkegaard understands as formative is increasingly absorbed by the system.

The connection with phronesis is direct here. Practical wisdom, as Aristotle emphasizes, requires participation in genuine deliberation under conditions of uncertainty. A self progressively relieved of the experience of uncertain choice by anticipatory systems does not develop the phronetic capacity for judgment. The externalization of existential burden is simultaneously the externalization of the conditions under which practical wisdom grows. Optimization culture increasingly externalizes forms of deliberation historically necessary for the cultivation of phronetic judgment.

The Single Individual and the Crowd

Kierkegaard’s political anthropology intensifies this analysis. The category of the ‘single individual’ (den Enkelte) names the person who accepts full responsibility before God without dissolving into the anonymous forms of the crowd.¹⁷ The crowd, for Kierkegaard, is not merely a sociological entity but an anthropological danger: the medium through which responsibility is diffused, individuality dissolved, and genuine

¹⁵ Søren Kierkegaard, *The Sickness unto Death*, ed. and trans. H.V. Hong and E.H. Hong (Princeton, NJ: Princeton University Press, 1980), pp. 13–14.

¹⁶ Søren Kierkegaard, *The Concept of Anxiety*, ed. and trans. R. Thomte (Princeton, NJ: Princeton University Press, 1980), p. 61.

¹⁷ Søren Kierkegaard, *Two Ages: The Age of Revolution and the Present Age*, trans. H.V. Hong and E.H. Hong (Princeton, NJ: Princeton University Press, 1991).

selfhood evaded. The crowd speaks, thinks, and judges, but in doing so distributes responsibility so widely that no one in particular remains answerable.

Contemporary optimization systems increasingly organize social existence around mechanisms structurally analogous to Kierkegaard's crowd. Statistical aggregation, behavioral clustering, and predictive modeling increasingly constitute the individual primarily as a data profile situated within probabilistic distributions—a dynamic that extends, at the level of everyday interaction, the extractive logic of surveillance capitalism discussed above. Preference is inferred from collective patterns. Recommendation is calibrated to cohort behavior. The user encounters herself not as a singular responsible self but as an instance of a type, her anticipated desires pre-shaped by the aggregated behavior of similar users.

The single individual, on Kierkegaard's account, emerges only through sustained resistance to this dissolution—through the inward demand to accept oneself as answerable before God rather than hiding within collective patterns. Optimization culture provides unprecedented technical infrastructure for precisely the dissolution Kierkegaard regarded as the primary spiritual danger of modernity. The individual becomes increasingly intelligible as a cluster of preferences to be served, rather than as a singular self to be formed.

The formative consequence is significant. A self increasingly constituted through crowd-mediated aggregation and anticipatory management may gradually lose not only tolerance for uncertainty but the very taste for the inwardness through which authentic selfhood becomes possible. The attenuation of existential burden is simultaneously the attenuation of selfhood itself. Kierkegaard's insight here anticipates Han's diagnosis: what both identify, from different directions, is the progressive thinning of the subject under conditions organized around the elimination of formative resistance.

Bonhoeffer and Responsibility

Costly Discipleship and the Non-Delegation of Action

Bonhoeffer relocates the question of formation into the concrete demands of historical action. Where Augustine analyzes the disorder of desire and Kierkegaard analyzes the structure of selfhood, Bonhoeffer analyzes responsible action before others under conditions of uncertainty and cost. His work provides the third and in some ways most practically acute resource for understanding what optimization culture risks displacing.

The distinction between cheap grace and costly grace in *Discipleship* provides the point of departure.¹⁸ Cheap grace names the form of religiosity that preserves the self from transformation by eliminating the cost of genuine commitment. It offers forgiveness without demanding conversion, absolution without discipleship, comfort without exposure. Costly grace, by contrast, calls the self into forms of obedience that unsettle and reshape it. Formation occurs not through affirmation of the self's existing preferences but through costly responsiveness to the demands of God and neighbor.

¹⁸ Dietrich Bonhoeffer, *Discipleship*, trans. B. Green and R. Krauss (Minneapolis, MN: Fortress Press, 2001).

The theological logic here is directly relevant to the present argument. Optimization culture increasingly offers precisely what Bonhoeffer identifies as cheap grace at the anthropological level: the promise of outcomes without the formative burden of the processes through which those outcomes were historically achieved. Intelligent mediation increasingly provides responses without requiring the cultivation of judgment; decision-support systems increasingly recommend without requiring the assumption of genuine responsibility; emotional management tools increasingly smooth relational difficulty without requiring the development of patience and courage. The pattern is structurally identical: benefit without formation, outcome without the costly engagement that constitutes formation.

Verantwortung and the Refusal of Procedural Delegation

Bonhoeffer's mature ethical thought centers on *Verantwortung*, responsibility.¹⁹ Responsibility is not merely legal accountability for outcomes but answerability before God, others, and the historical situation itself. The responsible self acts under conditions that do not permit certainty or procedural guarantees. It accepts the burden of decision without being able to eliminate ambiguity first. And through the concept of *Stellvertretung*, vicarious representative action, Bonhoeffer intensifies this account further: the responsible self bears burdens on behalf of others and accepts forms of risk, exposure, and answerability that cannot be delegated to abstract systems or eliminated through procedural rationality.

This anti-procedural dimension is especially significant for the present argument. Bonhoeffer insists that responsible action cannot ultimately be reduced to rules, systems, or algorithmic calculation—not because such systems are unhelpful in every respect, but because responsibility is constitutively a mode of personal answerability that cannot be transferred. A self that consistently delegates morally significant judgment to external systems does not thereby become more responsible; it gradually loses the form of engaged selfhood that makes genuine responsibility possible.

Optimization culture increasingly promises precisely this delegation. Systems organized around predictive guidance, ethical recommendation, and algorithmic decision-support offer the functional outcome of judgment without the formative burden of exercising it. The anthropological consequence, on Bonhoeffer's account, is not merely intellectual dependency but the gradual attenuation of the self's capacity to bear weight—to act under uncertainty, to remain exposed, to accept answerability without procedural guarantee.

Phronesis, Responsibility, and the Atrophy of Judgment

The connection between Bonhoeffer's account of *Verantwortung* and the Aristotelian concept of *phronesis* is clarifying here. Both presuppose that the capacity for judgment is not a permanent cognitive resource that can be drawn upon indefinitely regardless of how it is used. Practical wisdom is a cultivated disposition that develops through exercise

¹⁹ Dietrich Bonhoeffer, *Ethics*, ed. C.J. Green (Minneapolis, MN: Fortress Press, 2005).

and atrophies through consistent non-use. The repeated assumption of responsible judgment under conditions of uncertainty is not merely a moral obligation but the practice through which the capacity for such judgment is formed and sustained.

Optimization culture increasingly alters these conditions. Recommendation systems, predictive analytics, decision-support tools, and generative AI applications increasingly perform forms of evaluative and interpretive labor once carried by human agents themselves. Such systems do not merely provide information; they increasingly mediate judgment by recommending conclusions, prioritizing interpretations, and reducing the ambiguity through which deliberation historically occurred.

The anthropological concern is not simply dependence upon technological assistance. It is the possibility that the phronetic capacity for judgment weakens through habitual non-use. Capacities formed through sustained exercise often atrophy when consistently delegated elsewhere. A population habituated to algorithmically mediated moral interpretation may become progressively less capable of independent phronetic discernment even if the systems themselves remain functionally effective. What is lost is not information but the formed capacity to evaluate—the cultivated disposition of practical wisdom that Augustine, Kierkegaard, and Bonhoeffer each presuppose as the horizon of genuine moral formation.

AI and the Deformation of Moral Agency

The Central Mechanism: Externalization

The preceding sections have each traced a distinct dimension of the shared anthropological claim: that moral agency is formed through sustained engagement with forms of burden—the reordering of disordered desire, the assumption of existential responsibility, the acceptance of costly answerability—that contemporary AI systems increasingly externalize. The term externalization is chosen with care. It designates neither dramatic replacement nor simple supplementation but a more subtle reorganization: the systematic displacement of formative burden from within the agent to outside systems. The judgment is not eliminated but relocated. The anxiety is not destroyed but managed. The responsibility is not abolished but mediated. And it is precisely this externalization—not the loss but the relocation of burden—that constitutes the formative threat.

The three theological traditions examined above illuminate three dimensions of this externalization. Augustine's analysis of *curiositas* reveals how systems organized around continuous stimulation and preference-satisfaction increasingly externalize the task of attentional discipline, providing curated environments calibrated to existing desire rather than inviting the confrontation through which desire might be reordered. Kierkegaard's account of anxiety and the single individual reveals how systems organized around anticipatory reduction of uncertainty and crowd-mediated behavioral aggregation increasingly externalize the existential burden through which selfhood becomes task-like and answerable before God. Bonhoeffer's account of *Verantwortung* reveals how systems organized around ethical recommendation, predictive guidance, and decision-support increasingly externalize the burden of responsible answerability that is constitutive of moral agency.

And underlying all three is the displacement of phronesis: the externalization of the deliberative exercise through which practical wisdom develops.

The deformation in question is therefore not a dramatic or sudden catastrophe but a gradual attenuation. Capacities formed through sustained exercise weaken through consistent non-use. A self habituated to algorithmically mediated attention may gradually lose the disposition for sustained interior engagement. A self habituated to anticipated certainty may gradually lose the tolerance for anxiety that is the affective condition of genuine freedom. A self habituated to mediated judgment may gradually lose the phronetic capacity for independent moral discernment. None of these attenuations is immediately visible, and none may be subjectively experienced as loss—because the externalizing systems increasingly provide functional substitutes that maintain the appearance of competence while the underlying capacity quietly weakens.

The Suppression of Creaturely Vulnerability

A clarification of the article's treatment of vulnerability is necessary here. The argument might initially be expressed by saying that optimization culture seeks to 'eliminate' vulnerability. But this formulation is philosophically imprecise in an important way. Vulnerability as a constitutive feature of creaturely existence cannot ultimately be eliminated: to be a finite creature is necessarily to be exposed, limited, and dependent, and no technological system can overcome this condition—a point developed with particular force in the tradition of virtue ethics concerned with human dependence and vulnerability. What optimization culture increasingly accomplishes is rather the suppression, concealment, and mediation of the conscious encounter with vulnerability—the systematic engineering of environments in which the formative encounter with finitude, dependence, and exposure is progressively reduced without the underlying creaturely condition itself being overcome.

The anthropological consequence is therefore not invulnerability but deformation. The creature who is progressively protected from the formative encounter with its own vulnerability does not become stronger; it becomes less capable of truthfully inhabiting its creaturely condition. It loses the practices and dispositions through which finitude and dependence have historically been inhabited with courage, attentiveness, and truthful relation. The aspiration to self-sufficiency, as Rowan Williams observes, does not achieve strength but forecloses the forms of receptivity through which the creature becomes capable of genuine relation to God and others.²⁰ Optimization culture provides this aspiration with unprecedented technical resources for its partial, never complete, but nonetheless formatively significant realization.

The Moralization of Frictionlessness

A final dimension deserves attention. Optimization culture does not merely reorganize human capacities at a technical level. It operates as a moral imagination: a normative

²⁰ Rowan Williams, *Lost Icons: Reflections on Cultural Bereavement* (Harrisburg, PA: Morehouse Publishing, 2000).

vision in which frictionlessness appears as the hallmark of a good life and difficulty appears primarily as a technical problem awaiting resolution.

Within this imagination, the person who reads primary texts rather than summaries, sustains difficult conversations without mediation, or accepts the burden of uncertain decision rather than delegating it to a predictive system increasingly appears not disciplined but inefficient—even irrationally resistant to available assistance. The burden of proof shifts. Practices that preserve attentiveness, patience, and inward responsibility require justification. Practices that delegate, accelerate, and smooth do not.

This moralization of frictionlessness is theologically significant because it reorganizes the cultural vocabulary within which formation is understood and valued. The traditions examined in this article understood difficulty not as a deficiency of the good life but as its medium. When optimization culture succeeds in presenting this understanding as irrational or primitive, it does not merely change technological behavior; it erodes the cultural and conceptual preconditions within which the argument for formative difficulty can even be articulately made. The anthropological consequence may thus persist even among those who consciously resist individual technologies, because the underlying normative imagination increasingly shapes what counts as a reason and what counts as flourishing.

Conclusion: Toward a Formative Anthropology of Technology

The argument developed throughout this article may now be stated with precision. Contemporary AI systems, as expressions of a broader optimization culture, increasingly externalize forms of judgment and existential burden that Christian traditions have historically understood as necessary conditions for the cultivation of moral agency. The deepest ethical problem posed by AI is not whether machines make moral decisions, but whether optimization-oriented technological systems gradually weaken the human capacities required for moral formation itself.

This claim does not entail technological abstinence. The traditions examined here have never valorized difficulty indiscriminately. Christian moral formation has always distinguished between suffering that deforms and difficulty that cultivates. Certain forms of technological mediation may genuinely support attentiveness, reduce destructive burdens, and free human beings for more meaningful forms of engagement. The concern is not with mediation as such but with a specific directionality: systems organized around the systematic externalization of burden rather than the support of the agent's own formative engagement.

The crucial distinction is between technologies that assist judgment and technologies that replace the exercise through which judgment develops; between systems that alleviate unnecessary suffering and systems that eliminate the forms of existential burden through which moral agency historically emerged; between tools that enhance the agent's own practice and systems that habituate the agent to its own progressive displacement from the formative process. This distinction does not yield simple technological prescriptions, but it provides the evaluative orientation from which such prescriptions can be developed.

In response to this concern, the article proposes a formative anthropology of technology as an evaluative framework. Such an approach evaluates technological systems not only according to functional criteria such as safety, efficiency, fairness, and scalability, but according to the forms of attention, desire, judgment, and relation they cultivate or weaken. Technologies do not merely extend human capacities; they reorganize the conditions under which human beings become certain kinds of persons. This claim is not without precedent in the philosophy of technology. Both Ellul and Borgmann have argued, in different registers, that technologies carry embedded formations that reshape the practices and capacities of their users.²¹ The present argument extends these insights within a specifically theological-anthropological framework.

A formative anthropology of technology therefore asks questions largely absent from prevailing evaluative frameworks. Does a given AI system preserve interpretive participation, or does it substitute algorithmic outputs for the human judgment and discernment through which phronetic wisdom develops? Does it cultivate forms of attentiveness that resist the dispersive logic Augustine identifies as *curiositas*, or does it intensify the saturation of attention with curated stimulation calibrated to existing desire? Does it strengthen the capacity for existential responsibility and inwardness that Kierkegaard understands as the condition of genuine selfhood, or does it increasingly absorb the individual into crowd-mediated aggregation and anticipatory management? Does it sustain the structures of personal answerability Bonhoeffer identifies as constitutive of *Verantwortung*, or does it encourage forms of procedural delegation that progressively weaken the agent's capacity to bear weight?

These questions do not yield simple prohibitions. They constitute an evaluative orientation—a form of anthropological seriousness capable of recognizing that the deepest formation questions posed by AI are not questions about machine intelligence but about human formation; not about what systems can do, but about what kinds of persons are cultivated within environments organized around their increasingly comprehensive assistance.

The challenge posed by optimization culture to Christian ethics is not merely a new form of an old problem. It is a novel form of an ancient challenge: to resist the cultural moralization of ease, to recover the theological seriousness of creaturely formation, and to articulate a vision of human flourishing that does not reduce to the frictionless satisfaction of existing preference. The traditions of Augustine, Kierkegaard, and Bonhoeffer offer not a technophobic retreat but a constructive anthropological resource for this task—one that identifies with precision what is at stake when the burden-bearing practices through which moral agency is formed are progressively externalized to systems incapable of bearing them on behalf of the self.

What is ultimately at stake is not whether human beings will continue to govern intelligent systems responsibly. It is whether human beings formed within increasingly optimized environments will retain the moral and spiritual capacities such responsibility

²¹ Albert Borgmann, *Technology and the Character of Contemporary Life: A Philosophical Inquiry* (Chicago, IL: University of Chicago Press, 1984); Ellul, *The Technological Society*.

requires—the attentiveness to recognize what matters, the courage to inhabit uncertainty, the willingness to bear weight, and the inwardness to remain answerable before God and others in the concrete demands of history.

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Ethical Approval

This article is a theoretical and philosophical investigation in theological anthropology and the philosophy of technology. It does not involve empirical research with human participants, animal subjects, or sensitive clinical data, and therefore did not require formal institutional review board (IRB) or ethical committee approval.

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AI use Declaration

Artificial Intelligence and Generative AI Technologies

The author declares that large language model (LLM) assistance was utilized during the preparation of this manuscript strictly for structural feedback, grammatical refinement, and editorial polishing. The core conceptual frameworks, original theoretical terminology, theological analyses, and final arguments were entirely generated and authored by the researcher. The use of these technological tools did not influence the substantive conclusions or original contribution of the study.