

## **PSYCHOLOGY BEYOND TECHNOCRACY: MARSHALL MCLUHAN, MAGDA ARNOLD, AND THE “MEANING CRISIS”**

*Adam Pugen*  
University of Toronto

*The tradition of faculty psychology is brought to bear on contemporary online discourses purveying the sense of a "meaning crisis" in western consciousness. Taking the social media outreach and scholarly research of psychology professors Jordan Peterson and John Vervaeke as some of the most influential commentary on what Vervaeke has popularly labeled the "meaning crisis," this paper offers the media scholarship of Marshall McLuhan and the psychological theory of Magda Arnold as more compelling sources both for defining the so-called "meaning crisis" and for addressing it. Explicating Arnold's retrieval of Thomas Aquinas' discussion of the "cogitative sense" in her psychology of the emotions, this paper uses Arnold's work to shed light on McLuhan's theory of media environments in order to contextualize the "meaning crisis" in relation to the psychic attitudes correlative to electric and digital technologies.*

### **THE MEANING CRISIS**

As increasingly documented by academic researchers and popular commentators, the cultural shifts driven by social media platforms have been met with pervasive psychological turmoil; youth growing up with digital devices are experiencing troubling rates of depression and anxiety<sup>1</sup>, and online discussions of culture and politics have largely come to be characterized by social resentment and tribal discord.<sup>2</sup> In this digital milieu, the sense that western culture has descended into a “meaning crisis” has provided the organizing principle for a number of online intellectual communities intent on probing the causes of, and potential solutions to, this crisis.

Two figures who have given, perhaps, the strongest momentum to this effort are Jordan Peterson and John Vervaeke, both, incidentally, psychology professors at the University of Toronto. Infamously, in 2016, Peterson helped catapult the online association of public figures known as the ‘The Intellectual Dark Web’ by posting a number of emotionally raw YouTube videos. Drawing on his clinical background and research into the psychology of political movements, Peterson urged individuals to resist the contemporary pull of both left-wing and right-wing identity politics through returning to a traditional Western ethics of personal responsibility and self-knowledge. Avoiding overtly political concerns, John Vervaeke less famously entered online awareness in 2019 by posting an ongoing series of YouTube videos entitled “Awakening from the Meaning Crisis.” Vervaeke’s prescription of Eastern spirituality such as the

practice of “mindfulness” reflected the shift in some of the online communities grappling with the meaning crisis from an ‘Intellectual Dark Web’ to an ‘Intellectual Deep Web’.<sup>3</sup>

Importantly, having inherited the discourses of “embodiment” characteristic of twentieth century existential thought, both Peterson’s and Vervaeke’s contemporary appeal coincides with their articulation of models of human behavior which, through countering the mind-body split of Cartesian rationalism, aim to recover a fundamental unity between “spirit” and “matter,” rationality and embodiment, theory and practice, that is oriented toward the embedding of existential meaning in the individual’s daily life. Indeed, it is Descartes’ grounding of metaphysical certitude in abstract reasoning alone, rather than in its emergence from embodied perception, that Vervaeke ties to the very historical genesis of the meaning crisis.<sup>4</sup> Following the tradition of embodied cognition and dynamical systems theory in cognitive science,<sup>5</sup> Vervaeke’s proposed “awakening” from the meaning crisis involves experiencing higher-order “propositional knowing” as an emergent property of embodied processes of individual and collective “self-organization.”<sup>6</sup>

Like Vervaeke (see note 4), Peterson sees the crisis of meaning in western culture as resulting from the disruption of the Christian worldview by scientific rationalism. Unlike Vervaeke, Peterson’s solution to this crisis is not the grounding of mind in the self-organization of matter but rather the grounding of matter in the self-organization of mind – that is, through following the depth psychology of Carl Jung, Peterson aims to counter the meaning crisis by recovering the symbolism of Christianity and other religious traditions as the expression of living archetypes in the process of their biological and cultural evolution.<sup>7</sup>

The online presence of Peterson and Vervaeke attests both to the compelling degree of popular intellectual engagement fostered by cultural digitization, along with the sense that the very modes of knowing promulgated by digitization are spurring a deep-seated wariness of past solutions to problems of existential meaning. Nevertheless, through drawing on the work of two earlier University of Toronto professors – the media scholar Marshall McLuhan and the psychologist Magda Arnold – this paper will argue that the psychoanalytic and systems theoretic approaches to the meaning crisis advocated by Peterson and Vervaeke are implicated in, and thus perpetuate, the very meaning crisis they aim to remedy. In contrast, through applying McLuhan’s grammar of media environments, along with Arnold’s retrieval of Thomistic psychology, this paper will suggest ways in which the “meaning crisis” might be more productively approached.

### THE MEANING CRISIS AND TECHNOLOGY

Famously, what McLuhan designed his media scholarship to address was the manner in which the patterns of technological mediation presiding in a given cultural milieu shape not only the content of communication mediated but, much more importantly, the very structures of perception on the basis of which such content becomes meaningful. In this regard, while depicting any major technological shift as generating a meaning crisis that invariably “obsolesces” the attitudes fostered by the previous technological environment, McLuhan saw the particular meaning crisis generated by the scientific revolution as grounded in the technology of the printing press; the fragmentary individualism and questioning of religious faith identified by Peterson and Vervaeke were, for McLuhan, consequences of the printed page’s reduction of experience to fragmented bits of information connected by uniform and abstract linearity. The medieval grammar of existence was, in this way, upturned by the modern dialectic of uniform mechanical laws.<sup>8</sup>

Crucially, however, it is in the attitudes fostered by electric media – from telegraph to television – that McLuhan identifies a meaning crisis that directly obsolesces the western “ecology of worldview” (see note 4). This is because, despite the excessive abstraction of print media, it is only in electric media, McLuhan asserts, that the human being becomes physically “discarnate”: “when man is ‘on the phone’ or ‘on the air,’ moving electrically at the speed of light, he has no physical body. He is translated into information, or an image.”<sup>9</sup> As McLuhan observes, the psychic effect of this disembodiment, which is both the loss of physical grounding and the gain of seemingly superhuman abilities, is the sundering of the individual’s relation to “Natural Law” – the conception, from Ancient Greece even to the modern industrial world, that a moral order exists in the natural universe and is discoverable by the individual’s rationality.

Attributing the strongest and most enduring articulation of “Natural Law” to Aristotle – an articulation that, in the thirteenth century, Thomas Aquinas would successfully integrate into Christian theology – Vervaeke rightly emphasizes the centrality to Aristotle (and to the western “ecology of worldview”) of the principle of *form*.<sup>10</sup> According to Aristotle, form (*morphé*) not only provides the inner organization or categorial essence of each material (*hyle*) thing, but also establishes an intelligible conformity or existential proportion between the form of the human body – identified by Aristotle as the intellectual soul<sup>11</sup> – and the forms of the world. It is through this intrinsically meaningful conformity that the intellect assimilates to itself – in effect *becoming* – the essences embedded in the material world, while at the same time remaining a distinct and relatively autonomous individual substance, capable of knowing being in its manifold but universal amplitude.

McLuhan’s crucial observation – one explored in more detail by Eric McLuhan<sup>12</sup> – is that electric media obsolesce the individual’s relation to “natural law” because, through extending human experience beyond the confines of the physical body, the individual is no longer related to his or her bodily *form*, which,

as the principle of human intellection, establishes proportions of universal value (and virtue) through realizing within itself the formal structure of being. Deprived of one's own *human form* through electric discarnation, the individual naturally loses the sense of one's personal responsibility to being; instead, "caught up in the hybrid energy released by video technologies, he [is] presented with a chimerical 'reality' that involves all his senses at a distended pitch...The mind, as figure, sinks back into ground and drifts somewhere between dream and fantasy."<sup>13</sup>

In this dismantling of ontological limits and boundaries – those between presence and absence, self and other, reality and fantasy – we can identify both the psychological basis for the contemporary "meaning crisis" and the inadequacy of Vervaeke's and Peterson's attempts to transcend it. Returning to the *hylomorphism* of Aristotle, while the principle of form is correlated with *actuality*, the principle of matter is correlated with *potentiality*; it is only by *limiting* the infinite potentiality of matter that form can differentiate matter into actually existing substances with defined proportions of material capacities. Through electric discarnation's obsolescence of the human *form*, however, it is the relatively undifferentiated potencies of human *matter* that appear psychologically paramount; this leads to the situation in which the intellectual apprehension of existential proportion (and thus *meaning*) is obsolesced by the material experience of fused ontological categories, such that, as McLuhan writes, "everybody will be nobody...The more quickly the rate of information exchange speeds up, the more likely we will all merge into a new robotic corporate entity, devoid of true specialism which has been the hallmark of our old private identities."<sup>14</sup>

Fundamentally, it is the psychic loss of *formal* differentiation – and the concomitant psychic stress on *materiality* – that undergirds the psychological orientations of both Peterson's and Vervaeke's solutions to the meaning crisis. In other words, while Peterson and Vervaeke both pursue an existential ground for the human realization of formal meaning, this ground is identified not with the actual apprehension of form (Aristotle's *formal cause*), but instead with the material conditions – ultimately derived from Darwinian fitness criteria – of such an apprehension (Aristotle's *material cause*). In this reduction of form to matter – of the actual universality of *being* to the potential particularities of *becoming* – Vervaeke and Peterson inadvertently participate in electric discarnation, such that the form of the human body becomes metaphysically equivalent, for Vervaeke, to self-organizing distributions of matter,<sup>15</sup> and, for Peterson, to primordial Will directly realizing itself as matter.<sup>16</sup>

In contrast, rather than uncritically (and unknowingly) adopting the perceptual biases of a particular technological medium (an attitude McLuhan regarded as "somnambulism"), McLuhan's answer to electric media was precisely to retrieve the animating *form* of the human body (the Aristotelian intellectual soul) as the means of perceiving how the psychological and sensory proportions sustaining the human form become internally adjusted and re-worked due to the environmental operation of media forms. Nevertheless, since his intellectual

background was in poetics rather than psychology, McLuhan's insights were not psychologically precise, a fact that has made McLuhan's often polarizing work open to misinterpretation and obfuscation by his defenders and detractors alike.<sup>17</sup>

With the aim of redressing this gap in McLuhan's work, the remainder of this essay will turn to the psychological research and theory of Magda Arnold. While teaching at the University of Toronto at the beginning of McLuhan's own professorship in 1946, Arnold would move shortly afterward to the United States, where her conversion to Catholicism would prompt her to connect the Aristotelian-Thomist conception of the human person to modern psychological and neurophysiological research. Specifically, as we will see, in Arnold's retrieval of the psychology of the "inner senses" introduced by Aristotle, and expanded upon by Aquinas, we may glean a powerful model of the "intellectual soul" in its daily functioning and animation of the human personality. In this way, McLuhan's psychology of media environments, both in its response to the "meaning crisis" of electric technology, and in its potential relevance to the ways in which this crisis may or may not persist in the *digital* environment, can be put on surer ground.

### **MAGDA ARNOLD'S RESPONSE TO THE MEANING CRISIS IN MODERN PSYCHOLOGY**

In 1954, Arnold published her first major work *The Human Person: An Approach to an Integral Theory of Personality* with John A. Gasson as the primary co-author. A Jesuit priest, psychology professor, and close companion and intellectual associate to Arnold, Gasson introduced Arnold to Thomistic philosophy in 1949, after which they began a concerted effort to correct the pervasive tendency in twentieth century psychological theory to reduce the human personality to the operation of mechanistic and/or irrational material drives. Accordingly, *The Human Person* begins with a critical essay by Arnold on the largely unacknowledged metaphysical assumptions underlying the modern study of psychology.

Foremost among these, Arnold notes, is the philosophy of 'physical naturalism,' which – reflective of my discussion of electric discarnation – eliminates the metaphysical distinction between the inner *form* of the human being and the external *matter* of physical forces. "Man," according to this view, "is the latest product of an evolutionary process which started from inorganic matter and ended with the human being; thus nature is continuous. Therefore, strict deterministic causality holds throughout the realm of nature and everything in man must be explicable by the same physical and chemical laws that hold for inanimate objects. Man's actions are determined by a combination of external and internal forces in the same way that every natural object is; he is molded by his social environment and develops into a mature human being if his needs are integrated with social demands."<sup>18</sup>

Concerned solely with the Aristotelian principles of “efficient causality” (the sequence of agents or forces productive of a being) and “material causality” (the material composition of a being), the paradigm of physical naturalism necessarily excludes the Aristotelian principles of “formal causality” (the intrinsic essence of a being) and the closely related “final causality” (the purpose, or reason for existing, of a being). As Arnold notes, physical naturalism cannot, therefore, even from an empirical standpoint, explain the phenomenon of the human being, whose unavoidable experience of “freedom, responsibility, and purpose”<sup>19</sup> ties human psychology both to an essence and a purpose, which are radically distinct from what can be realized in the *forms*, not only of inanimate matter, but also of the living (or ensouled) matter of plants and animals.

Arnold’s critique applies equally to “mechanistic systems” as to so-called “nonmechanistic” or “dynamic systems.” Corresponding to my discussion of Vervaeke, Arnold notes that dynamic systems – in contrast to mechanistic systems – are purported to model not only changes in the location of a systems’ elements, but changes in the very qualitative nature of a system (as when “life” is said to emerge from chemical activity or when “mind” is said to emerge from neuronal activity). Nevertheless, while used to model the behavior of lower-level and higher-level “systems” alike, from storms to human beings, dynamic systems, Arnold notes, still remain tied to the determinism of physical forces, thus eluding the distinct “formal cause” of human psychological reality.

The “analytical psychology” of Carl Jung, with its greater attention to psychic experience and to the reality of non-material values, holds more interest for Arnold, who credits Jung’s therapeutic use of “active imagination” as influencing her work with Gasson on personality integration and the pursuit of the “self-ideal.”<sup>20</sup> Importantly, however – as an idealist variation on “physical naturalism” – Jung’s metaphysics fuses individual human psyches, and indeed reality itself, into a primal “collective unconscious,” such that the “final cause” of human life is to understand one’s own psyche as the self-regulating balance of conflicting archetypal powers. It is for this reason that, in Jungian psychology – as we saw in Peterson’s evolutionary idealism – the *form* of the human psyche is ultimately reduced, not to the *objectivism* of dynamic (though deterministic) physical models, but to the *subjectivism* of the evolving psyche as God archetype. The therapeutic danger of this kind of mythological solipsism is aptly realized by Arnold: “Jung’s unconscious is peopled with gods and demons, heroes and villains which represent the collective even more than the personal forces of the unconscious and are so taken to be reliable guides to personality integration. No wonder that Jung’s patients are in danger of ‘inflation,’ of developing a ‘mana-personality.’ If out of themselves they can create gods and demons, powers and principalities to guide them, why shouldn’t they become first elated and then inflated?”<sup>21</sup>

Dissatisfied with both subjectivist and objectivist psychological models resulting from the metaphysics of “physical naturalism,” Arnold and Gasson attempt in *The Human Person* to show how the human being’s discontinuity with the rest of nature on account of the characteristics of “freedom, responsibility,

and purpose” can only be understood in light of the formal and final causes of human activity. With regard to “final cause,” Gasson and Arnold (drawing from Gasson’s dissertation) identify the “self-ideal” as the motivating factor in human behavior and as the crucial area of intervention if the human being is to achieve an integrated personality on the basis of ordering oneself according to a “rational pattern” of values. For the purposes of this essay, however, it is the “formal cause” of such a rational pattern that is significant, and, in this regard, Arnold’s so-called “appraisal theory of emotion” conveyed in her works *Emotion and Personality*<sup>22</sup> and *Memory and the Brain*<sup>23</sup> is instructive.

### **THE RETRIEVAL OF THE COGITATIVE SENSE IN ARNOLD’S APPRAISAL THEORY**

It is a testament to the enduring explanatory power of scholastic thought that the substance of Arnold’s influential theory of appraisal<sup>24</sup> is derived from the psychological doctrine of Thomas Aquinas. Specifically, Arnold’s conception of the emotional constitution of the human personality depends upon the Thomist theorization of the *cogitative power*, which is itself rooted in Aristotle’s discussion of the *estimative faculty*<sup>25</sup> as it was taken up by the Arabic scholars Avicenna and Averroes in their formulation of the doctrine of the *internal senses*. According to Aristotle’s faculty psychology, both animal and human perception require the “proper sensibles” of the external senses (i.e. color, sound, smell, flavor and tangibility) to be integrated as single perceptual objects (i.e. a fruit, a man, a plant) through the operation of a common sense (*koine aisthesis*).<sup>26</sup> For Avicenna and, later, Albert the Great and Thomas Aquinas, the common sense or *sensus communis* is the first *internal* sense; from the different impressions (or *species impressae*) of the external senses, it produces (as a *species expressa*) an objective representation that is internally retained (again as a *species impressa*) by the *imagination*, the second internal sense. Importantly, however, the intentional objects of the common sense and imagination do not advance beyond the information received by the external senses as *intentiones sensatae*; in contrast, the estimative or cogitative sense, the third internal sense in Aquinas’ model, is able to perceive objects as *intentiones insensatae*, that is, as more than what can be “intended” merely from sensation.

Peghaire introduces this power of the estimative sense by recalling the thinking of the medieval scholastics, who observed that “the ewe flees from the wolf even before it has experienced the danger which threatens it, although it follows the dog which nevertheless bears a strong resemblance to the wolf; it recognizes its own lamb, but refuses to suckle another; it seeks a certain herb as a source of nourishment, but spurns a certain other though it has never tasted it...”<sup>27</sup> In all of these instances, the estimation performed by the animal as to what is useful, harmful or indifferent to the animal’s existence, only partially depends upon the activity of the external senses. This is because, while the external senses convey the objects that the animal recognizes to be beneficial

or harmful (i.e. the physical presence of a wolf or of a plant), they do not produce the evaluation that such objects have a relationship of benefit or harm to the animal. For such an *intentio insensatae*, a higher faculty is required; nevertheless, since the evaluation produced by this *intentio* pertains to particular sensory objects, the scholastics attributed it to the power of a sense – namely, the estimative sense.

In the human being (or *rational* animal), the estimative sense, according to the scholastics, takes on an additional power; it is thus called not the estimative power (*vis aestimativa*) but the cogitative power (*vis cogitativa*). Significantly, it is in the ontological gap between these two powers that the essential distinction between animal and human psychology begins to reveal itself. As Aquinas writes,

[F]or the apprehension of intentions which are not received through the senses, the ‘estimative’ power is appointed: and for the preservation thereof, the ‘memorative’ power, which is a storehouse of such-like intentions... Now, we must observe that as to sensible forms there is no difference between man and other animals; for they are similarly immuted by the extrinsic sensible. But there is a difference as to the above intentions: for other animals perceive these intentions only by some natural instinct, while man perceives them by means of coalition of ideas. Therefore the power by which in other animals is called the natural estimative, in man is called the ‘cogitative,’ which by some sort of collation discovers these intentions. Wherefore it is also called the ‘particular reason’...for it compares individual intentions, just as the intellectual reason compares universal intentions.<sup>28</sup>

For Aquinas, then, the psyches (or souls) of humans and animals are essentially the same with respect to the materiality of *intentiones sensatae*; they are essentially distinct, however, with respect to the immateriality of *intentiones insensatae*. That is, while the estimative sense in the non-rational animal adds an immaterial judgment of value to the animal’s material perceptions, such a judgment is instinctual; the sheep recognizes the wolf as threatening because of a natural estimation reflective of an “innate cognitive structure.”<sup>29</sup> This is not the case with the rational animal, because the power to judge the useful and the harmful in particular instances is derived, in the human psyche, from the power of collation. United with the universal apprehension of the intellect – the specific difference of the rational animal – *collatio* compares “individual intentions” so as to perceive each individual sensory thing, not primarily as something to be sought, avoided, or ignored, but as something to be evaluated in light of the “common nature” or universal essence it embodies. As Peghaire writes, “The ewe knows her lamb as something concrete, individualized, but not inasmuch as it is this individual possessing the nature of a sheep; she knows it only in that she knows, without being conscious of it, that she is impelled to give her milk to



this white, baa-ing, gamboling object.”<sup>30</sup> The human cogitative power, on the other hand, “knows Peter as something concrete in which human nature is realized, and this oak table as something concrete in which is realized the nature of that tree which we call an oak. This is something which the estimative does not do.”<sup>31</sup>

Such a distinction is vital with regard to the cogitative power’s judgment of what is useful, harmful, or indifferent to the human animal’s existence, since, unlike the estimative whose movement of the animal into act is automatic, the human impulse to act driven by cogitative judgment – while still largely unconscious and immediate – is nevertheless reflected upon and, to varying degrees, shaped by the “command” of intellectual judgment. Thus, as Aquinas writes:

Impulse to action is in irrational animals otherwise than in man. For the impulse of man to action arises from the directing reason; wherefore his impulse is one of command. On the other hand, the impulse of the irrational animal arises from natural instinct; because as soon as they apprehend the fitting or the unfitting, their appetite is moved naturally to pursue or to avoid. Wherefore they are directed by another to act; and they themselves do not direct themselves to act. Consequently in them is impulse but not command.<sup>32</sup>

The holistic structure of the cogitative sense as an internal bridge between the intellectual understanding of abstract universals and the sensory perception of material singulars is instrumental to Arnold’s psychological theory. For, as Peghaire emphasizes, the habitual estimations performed by the cogitative sense convey an element of the human personality that is altogether missed by modern psychology’s focus on instinct, the latter of which “implies no consciousness of an end to be reached, or even, in many cases, of the means or movements useful to reach the end; the cogitative, on the contrary, is essentially founded on consciousness.”<sup>33</sup> Accordingly, linking the functions of the cogitative power to a neurological “estimative” or “appraisal system,”<sup>34</sup> Arnold accounts for the “freedom, responsibility, and purpose,” which in her earlier work she insisted to be self-evident attributes of the human personality, by grounding human emotion and the actions that flow from it, not in physiological drives, but in “intuitive appraisals” of the objects of human experience. For Arnold, much of the modern psychology of emotion<sup>35</sup> directly identifies the sense perception of an object with physiological changes of attraction or revulsion; what such theories miss, both in animal and human psychology, is that between the simple awareness of the object (enabled, according to the scholastics, by the *sensus communis*) and the emotion that spurs action in relation to the object is an *estimate* or *appraisal* of the object as ‘good’ or ‘bad’ for the sensing subject. Arnold thus writes,

[E]motion is an experience in which the person appraises the object as affecting himself. Such an appraisal of the object results in a felt attraction or aversion, and eventually (if no other motive interferes) in approach or avoidance. Perception is completed by an intuitive appraisal that arouses emotion. Hence the sequence perception-appraisal-emotion comes before the sequence emotion-expression-action, which so far has been emphasized almost exclusively in psychological theory. It is the sequence perception-appraisal-emotion that alone will explain the conditions necessary for arousing emotion.<sup>36</sup>

In keeping with the scholastic definition of the cogitative power as an internal *sensory* faculty, Arnold notes that the habit of making appraisals necessarily precedes deliberate reflection: “[S]uch sense judgments are direct, immediate, nonreflective, nonintellectual, automatic, ‘instinctive,’ ‘intuitive.’”<sup>37</sup> With regard to this immediate and preconscious character – combined with the power of “collation” – Arnold remarks that when certain objects and situations are appraised in a certain way, they become categorized as such, causing the expectation that other objects and situations exhibiting the same “nature” will evoke the past appraisal. Traumatic situations, for this reason, can often interfere with a person’s long-term ability to make realistic estimates.<sup>38</sup>

However, following the scholastic notion that the collative sense power of the cogitative not only *shapes* but is also *shaped by* habits of universal apprehension, Arnold notes that, while the acts of intuitive appraisals are immediate and nonreflective, the character of such appraisals (in older children and adults) are mediated and cultivated to varying degrees by the distinct human power to adopt “rational motives.” This entails choosing those objects which conform to one’s pursuit of values, such that the objects appraised as “good” do not reduce to – and may even conflict with – the satisfaction of one’s momentary impulses. It is due to such “self-determination”<sup>39</sup> that human appraising often consists, for Arnold, in the willful struggle to correct habits of appraisal that stand in the way of consciously determined goals. In these characteristically human situations, Arnold advises, “To break an emotional habit, a habit of acting from rational motives must be substituted. Every action decided on after reflection on rational grounds leaves an inclination to a similar action, just as every action that indulges emotion leaves an inclination to do the same next time. There is a habit of acting according to what is held right, and one of acting contrary to it – what used to be called virtue and vice.”<sup>40</sup>

As Arnold’s reference to the metaphysics of “virtue and vice” suggests, the kind of “rational motive” she has in mind starkly contrasts with the “rationality,” which, grounded in the metaphysics of “physical naturalism” and seen, therefore, as no more than the evolutionary product of biological drives, is tasked with integrating the human personality into the purportedly “self-regulating” efficiency of social structures. Taking the Aristotelian-Thomist view that the human personality is an animating soul comprised of hierarchically arranged, though holistically operative, powers, Arnold asserts that rationality

involves the deliberate ordering of one's human faculties – both material and immaterial – according to their natural dispositions:

Rational motives do not develop 'out of' instinctive or emotional motives, nor do physiological appetites or emotions develop 'out of' sensory or motor functions. The individual functions tend to action as soon as the opportunity is given, but they can be combined and ordered...The point to be remembered is that instinct as we understand it is an impulse and urge *to ordered activity*, achieving a naturally determined goal...Instinct directs the *ordering* of action sequences, which in human beings has to be implemented by reflective choice and deliberation.<sup>41</sup>

In the second volume of *Emotion and Personality*, Arnold draws on Gasson's notion of the "self-ideal" to address what it might mean for the human person to cultivate one's natural inclination for psychological order. As the ultimate object specifying one's habits of appraising, the self-ideal, for Arnold, originally takes shape in the child's appraisal of qualities in her parents, siblings, and others as "admirable" and worthy of imitation. As the child matures into adulthood, the self-ideal develops according to the individual's reflective adoption of values and long-term goals, which are themselves, Arnold notes, largely informed by the culture to which the individual belongs. It is here that Arnold is again confronted with the 'meaning crisis' of modern psychology, noting that the formation of a self-ideal built on the theistic tradition of "loving God and doing His will...goes far beyond the self-ideal that could be established on the basis of self-interest and social cooperation."<sup>42</sup> Nevertheless, it is precisely the latter condition that Arnold sees in the reigning religion of "scientism": "There was a time when man hoped that he was 'a little lower than the angels.' But in recent decades 'scientific' debunkers have instilled in him the conviction that he is a creature of lust, greed, and rapacity; worse than that, that he is a machine as blindly determined as the computer or the guided missile."<sup>43</sup>

In Arnold's reference to subjectivist and objectivist models of the human personality generated by the modern scientific and technological enterprise, we are reminded of what I earlier identified as the "meaning crisis" of electric technology. Following McLuhan's notion of electric discarnation as it applies to Aristotelian hylomorphism, I characterized this crisis as the collapse of the formal *actuality* of one's perceptions into the undifferentiated *potentialities* of biological and technical materiality. As the very principle that in-forms the human body by giving it the intellectual power to realize proportions of existential structure as "natural law," the human soul is, in the electrically discarnate state, obsolescent.

While, as I briefly noted, McLuhan's response to this crisis was to implicitly retrieve the Thomist conception of the human soul so as to intensify perception of the various forms of media environments as they impinge upon the human form, Arnold's response to this crisis was to explicitly update the scholastic

doctrine of the operations of the human soul so as to reveal the explanatory limitations of the modern conception of the human person, while strengthening the scholastic doctrine with the findings of neurological science. However, while Arnold's retrieval of Thomistic psychology may contribute a level of precision that is lacking in McLuhan's frequent recourse to Thomistic modes of sense-making, McLuhan's study of technological environments as engendering the very psychological "ground" of cultural attitudes allows us to evaluate Arnold's lifelong rebellion against technocratic materialism in terms of its relevance to the cultural attitudes being formed by the *contemporary* media environment. This is important since, in contrast to Jordan Peterson and John Vervaeke, both of whose response to the "meaning crisis" is compromised, I argued, by a fundamental allegiance to "electric discarnation," the mutually strengthening relationship between the work of McLuhan and Arnold shows us, as I argue in the following section, that the discussions of the "meaning crisis" carried out on digital platforms can be profitably extended only by acknowledging that the attitudes formed by electric discarnation may now, in the context of the digital environment, be obsolete themselves.

### PSYCHOLOGY BEYOND TECHNOCRACY

One of the most exhilarating qualities of McLuhan's work is his tour-de-force style of observation that links forms of technical mediation with forms of human behaviour; thus, while the medium of print, as McLuhan famously claimed, enhances the qualities of "detachment and noninvolvement – the power to act without reacting,"<sup>44</sup> the involving and decentralized nature of electric media allowed a number of new behaviors to flourish such as, in the early twentieth century, the idiom of jazz, which "comes from the French *jaser*, to chatter" and disrupts "the homogenous and repetitive rhythms of the smooth waltz"<sup>45</sup> indicative of print media attitudes. Noting the deep transformation of habits and values resulting from the technological reorganization of cultural patterns, McLuhan writes,

The fact of acceptance of a new phrase, or a speech form, or a dance rhythm is already direct evidence of some actual development to which it is significantly related. Take, for example, the shift of English into an interrogative mood, since the arrival of 'How about that?' Nothing could induce people to begin suddenly to use such a phrase over and over, unless there were some new stress, rhythm, or nuance in interpersonal relations that gave it relevance.<sup>46</sup>

Considering such remarks in the context of Arnold's work, it is not difficult to see that the attention McLuhan gives to the distinct patterns of human personality engendered by habitual engagement with media objects is founded

on the cogitative activity of *appraisal*. That is, Arnold accounts for the structure of human attitudes by pointing to habits of appraising the objects of experience as good or bad for oneself – habits originally founded, to a greater or lesser degree, on the “objects” of one’s parents and cultural practices as constitutive of one’s “self-ideal.” In McLuhan’s reference to the “acceptance” of a new cultural object as “relevant” and worthy of being used “over and over,” we are clearly in the domain of Arnold’s “intuitive appraisals” forming habitual actions and preferences. Nevertheless, for McLuhan, the self-ideal governing such appraisals is grounded in a psychological activity that is, structurally, more fundamental than the deep-seated desire to imitate one’s parents and cultural role-models; what Arnold calls the “self-ideal” is, for McLuhan, the very extension of the human body and psyche into the environments constituted by technological objects, the latter of which, in providing the structural model for all human relating and communicating, necessarily remake the human personality according to the immediate appraisal of their pattern of effects as “good.”

McLuhan explains this subliminal attraction to new forms of mediation by applying Thomist aesthetics to modern physiology. Thus, McLuhan’s famous theory of “sense-ratios,” whereby each new technology alters the balance of one’s senses by amplifying a particular sense, is grounded in Aquinas’ doctrine that “there is a ratio or rationality in the senses themselves.”<sup>47</sup> Such rationality, however, is not the kind of deliberate rationality evoked by Arnold as the means of training one’s habits of appraisal. Instead, McLuhan notes, the sense-ratios effected by new technological extensions are, traditionally, *not* subject to conscious reflection, since, in order to maintain psychic equilibrium in the context of societal change and acceleration, each technological extension serves as an “amputation” of the faculty or sense of the human person subject to the most “pressure” and “irritation.” It is this “autoamputation” that generates the “narcotic” condition, which McLuhan identifies with the mythological Narcissus. In other words, just as Narcissus fell in love with his own image by failing to recognize it as his own, the enthusiastic acceptance (or positive “appraisal”) of a new technological extension, and of the new ratios of sense-making it creates, depends on *not recognizing* such an extension as a violent “amputation” of one’s being.<sup>48</sup>

At the same time, however, just as Arnold appeals to conscious deliberation or “reflective appraisals” as the means of evaluating and, if necessary, correcting one’s habitual appraisals, McLuhan asserts that the technological “discontinuities of present experience...demand...sensitive inspection and appraisal,” and that through “adequate *perception* of situations,”<sup>49</sup> we may gain a measure of “freedom and release from the ordinary trance and numbness imposed by [media] on our senses.”<sup>50</sup> Interestingly, for McLuhan, it is precisely this deliberative awareness of media forms that is both required by, and, to a degree, fostered by the ecological nature of electric media: “Now, in the electric age, the very instantaneous nature of co-existence among our technological instruments has created a crisis quite new in human history. Our extended faculties and senses now constitute a single field of experience which demands

that they become collectively conscious. Our technologies, like our private senses, now demand an interplay and ratio that makes *rational* co-existence possible.”<sup>51</sup> Fortunately, McLuhan notes, the pursuit of interplay of extended human senses is characteristic of the attitudes fostered by electric media, since, due to electric simultaneity, “specialized segments of attention have shifted to total field” and “this integral idea of structure and configuration has become so prevalent that educational theory has taken up the matter.”<sup>52</sup>

Crucially, however, it is just this ‘field’ approach to human behavior and meaning that I have already critiqued in the psychological theories of Peterson, whose *subjectivist* approach seeks to identify the archetypal biological structures governing the ‘collective unconscious’, and of Vervaeke, whose *objectivist* approach seeks to identify the conditions of systemic variables from which new orders of human behavior emerge. Due to the very metaphysical *blending* of the human form with the materiality of the world, such approaches, I argued, reflect what McLuhan characterized as the discarnate condition of electric culture, according to which, through lack of formal differentiation, the human body no longer appears as being in-formed by the substance of an embodied intellectual ‘soul’. In contrast, if McLuhan’s theory of media effects depends on the function of appraisal, and if, as we earlier saw, both immediate and reflective appraisals depend on the *immaterial* action of the internal senses in concert with the external senses and the intellect, then the “sensitive inspection” of media forms according to their power to alter the balance of human faculties necessarily requires a human disposition that appreciates the differentiating powers of the human soul. Particularly, recognition of the distinct social and psychic order (or *ratio*) implicated in any technological extension requires the cogitative function of “collation,” according to which one perceives material things under a common essence. It is this collative power to apprehend the universal in the particular that De Hann credits as generating “aspectual percepts” and “cogitative sortals,” which become the psychological habits of appraising sensory objects (*intentiones sensatae*) as possessing distinct ratios of attributes (*intentiones insensatae*) specifying actions and affects.<sup>53</sup>

Importantly, therefore, although McLuhan seems to identify the “adequate perception of situations” required for understanding media with the psychic attitudes engendered by electric media, he also characterizes these attitudes as having qualities that are catastrophic for any “adequate perception” grounded in the external and, particularly, *internal* human senses. While contradictions and ambiguities certainly, and even wittingly, abound in McLuhan’s corpus, the gravity of this particular ambiguity – especially with regard to the “meaning crisis” of electric technology – merits resolution. In the next few paragraphs, I will briefly suggest that situating Arnold’s discussion of the internal senses in relation not only to the electric media environment but also to the digital media environment clarifies how the psychology of appraisal – while obscured by *electric* media – may be one of the human attitudes enhanced by *digital* media. We may, in this way, see that, while much of the online discussion of the “meaning crisis” centres on amplifying the very ‘discarnate’ attitudes produced

by this crisis, the motivation for such discussion may be evidence of an important shift in human attitudes, which, in order to properly address the meaning crisis, should be identified and fostered.

In her final work *Memory and The Brain*, Arnold investigates the internal senses in a particularly rigorous fashion. Developing her earlier theory, Arnold details how cogitative appraisal affects the entire disposition of the human psyche including, not only emotion, but also habits of attention, bodily movement and recognition. Importantly, all these habits involve the function of memory, since appraisals of present or future situations depend upon one's appraisals of similar situations from the past. This intimate link between appraisal and memory is crucial to the scholastic doctrine of the internal senses; for, as the fourth internal sense in the Thomist system, "the memorative power" retains the appraisals of the cogitative sense, just as the internal sense of imagination retains the sensory representations of the *sensus communis*. Thus, just as the first two internal senses of the common sense and imagination perceive the data of the five external senses (which are represented as internal images or "phantasms"), the second two internal senses of cogitation and memory perceive the categorial aspects in terms of which any given phantasmal representation becomes meaningful for the human subject and, thus, susceptible to intellective deliberation.

As Arnold notes, however, the imaginative sense does not only retain the images generated by the *sensus communis*, but also (in line with the modern connotation) "imagines" sensory representations in ways that do not conform to one's original perception of them. Thus, comparing the imaginative and memorative senses, Arnold writes, "The difference between recall and imagination is that recall is constrained to the reproduction of the original experience in its temporal sequence and spatial context while imagination is free to roam and can recombine such memories regardless of time, place, or logical context."<sup>54</sup> Applying McLuhan's notion of "sense-ratios" to the internal senses, we can see that the discarnate experience generated by the media of telephone, radio, and television, is predicated on the amplification of this power of imagination, since, as we saw, electric transmission extends the human body beyond the formal specification of "its temporal sequence and spatial context." Intensified by video technologies, this condition caused McLuhan to observe that "the mind, as figure, sinks back into ground and drifts somewhere between dream and fantasy."

However, if we consider the structure of digital technology, we find that, while computer networks electromagnetically extend human activity across space, they do so by numerically storing data and instructions in precise memory locations (or 'addresses'), operating upon them in step-by-step procedures specified by a logical circuitry of 'yes-no' decisions, and returning them to memory for exact preservation. Thus, while merely electric media devices store, display, and transmit audio and video signals, digital media devices generate and retain electrically embodied patterns of categorial judgments. Relating this distinction to the internal senses, the electric

production and retaining of signals based on external sensory data (*intentiones sensatae*) may be seen to extend the powers of the *sensus communis* and imagination, while the digital production and retaining of signals based on immaterial judgments (*intentiones insensatae*) may be seen to extend the powers of cogitation and memory.

If the contemporary meaning crisis is rooted in the sense-ratio effected by electric technology, whereby imagination recombines one's internal impressions beyond their formal senses produced by one's cogitation and preserved in one's memory, then the sense-ratio effected by digital technology, whereby it is precisely one's cogitation and memory that are extended, may provide a remedy. In other words, just as McLuhan and Arnold responded to the meaning crisis by recovering the human person's inner form or "soul", according to which the world and the things in it are appraised as meaningful, the digital extension of cogitation and memory may already be recovering an awareness of this form, prompting the very attitudes intent on solving the meaning crisis in the first place. While many of these attitudes remain unaware of their lingering yet powerful ties to the psychology of the electric environment, it is through a recovered and, even, intensified awareness of human appraisal that the relationship between technological form and human form can be perceived both in its services and disservices.

## Notes

1. Jean M. Twenge, *iGen: Why Today's Super-Connected Kids Are Growing Up Less Rebellious, More Tolerant, Less Happy--and Completely Unprepared for Adulthood--and What That Means for the Rest of Us* (New York: Simon & Schuster, 2017).

2. Stephen Hawkins, Daniel Yudkin, Miriam Juan-Torres and Tim Dixon, *Hidden Tribes: A Study of America's Polarized Landscape* (New York: More in Common, 2018).

3. Andrew Sweeny, "An Intellectual Deep Web?", *Medium* (blog), June 27, 2018, <https://medium.com/rebel-wisdom/an-intellectual-deep-web-aa7e60ef942a>;

Jakub Simek, "Intellectual Deep Web and Deep Code need Mimetic Theory", *Medium* (blog), July 21, 2019, <https://medium.com/meta-metta/intellectual-deep-web-and-deep-code-need-mimetic-theory-a5026d566568>.

4. John Vervaeke, Christopher Mastropietro, and Filip Miscevic, *Zombies in Western Culture: a Twenty-First Century Crisis* (Cambridge, UK: Open Book Publishers, 2017).

Vervaeke traces the contemporary meaning crisis – which he characterizes as the loss of transcendence and social cohesion – to the advent of nominalism from the late middle ages to the scientific revolution. Through positing an unsurpassable metaphysical and epistemological barrier between the human intellect and the sensorial world, philosophical (William of Ockham), religious (Martin Luther) and scientific (Galileo) nominalism, Vervaeke notes, obsolesced faith in an intrinsic cosmological order integrating human and world, thereby eroding the "ecology of worldview" achieved by the medieval synthesis of Greek philosophy and Christian dogma.

5. Francisco J. Varela, Evan Thompson and Eleanor Rosch, *The Embodied Mind: Cognitive Science and Human Experience*, (Cambridge: The MIT Press, 1992).



6. John Vervaeke, “The View from Above: A Transformation of Perspectival and Participatory Knowing” (speech, Toronto, September 18, 2019) *Modern Stoicism*, <https://modernstoicism.com/the-view-from-above-a-transformation-of-perspectival-and-participatory-knowing-by-john-vervaeke/>;

John Vervaeke, Timothy P. Lillicrap, and Blake A. Richards, “Relevance Realization and the Emerging Framework in Cognitive Science,” *Journal of Logic and Computation*, 22, no. 1 (2012): 79-99, <https://doi.org/10.1093/logcom/exp067>.

According to Vervaeke’s model, the psyche establishes meaning or performs “relevance realization” through the contextuality of skills (procedural knowing), awareness (perspectival knowing) and co-identifications (participatory knowing), which “bootstrap” themselves into being through the embodied mind’s systemic attempt to balance competing adaptive strategies of information processing.

7. Jordan B. Peterson, *12 Rules for Life: An Antidote to Chaos* (Toronto: Random House Canada, 2018).

On p. 195, Peterson writes, “Now, an idea is not the same thing as a fact. A fact is something that is dead, in and of itself. It has no consciousness, no will to power, no motivation, no action. There are billions of dead facts. The internet is a graveyard of dead facts. But an idea that grips a person is alive. It wants to express itself, to live in the world. It is for this reason that the depth psychologists—Freud and Jung paramount among them—insisted that the human psyche was a battleground for ideas. An idea has an aim. It wants something. It posits a value structure. An idea believes that what it is aiming for is better than what it has now. It reduces the world to those things that aid or impede its realization, and it reduces everything else to irrelevance. An idea defines figure against ground. An idea is a personality, not a fact. When it manifests itself within a person, it has a strong proclivity to make of that person its avatar: to impel that person to act it out.”

8. Marshall McLuhan, *The Gutenberg Galaxy: The Making of Typographic Man* (Toronto: University of Toronto Press, 1962).

9. Marshall McLuhan. “The Rise and Fall of Nature,” *The Journal of Communication*, 27, no. 4 (1977): 80.

10. Vervaeke et. al., *Zombies in Western Culture*, 73-76.

11. The Greek terminology used by Aristotle is *psuchē* (soul) possessing the powers of *noēsis* (understanding) and *dianoia* (thinking things through). See Joe Sachs, introduction to *Aristotle's On the Soul and On Memory and Recollection* (Sante Fe: Green Lion Press, 2004), 1-42.

12. Eric McLuhan, *The Sensus Communis, Synesthesia, and the Soul: An Odyssey* (Toronto: BPS Books, 2015).

13. Marshall McLuhan and Bruce R. Powers, *The Global Village: Transformations in World Life and Media in the 21<sup>st</sup> Century* (New York: Oxford University Press, 1989), 97.

14. McLuhan and Powers, 129.

15. John Vervaeke, “Ep. 30 – Awakening from the Meaning Crisis – Relevance Realization Meets Dynamical Systems Theory,” YouTube, August 9, 2019, 58:18, <https://www.youtube.com/watch?v=Wex12GhUFqE&t=2065s>.

The universal conformity between the human intellect and being central to Aristotelian cosmology becomes, for Vervaeke, the ongoing achievement between organisms and environments of “fittedness,” the latter of which has no intrinsic essence or teleological design: “There is no essence to fittedness...What Darwin realizes... [is that] he needed a theory about how...an organism is fitted, how it is constantly being designed, redefined by a dynamic process. Fittedness is always redefining itself,

reconstituting itself, it is something that is constantly within a process of self-organization, because there is no essence, no final design on fittedness.”

16. Jordan Peterson, “2016/12/31: A New Years Letter to the World,” YouTube, 21:06, <https://www.youtube.com/watch?v=YnEFt20qe0o&t=894s>.

Peterson asserts, “It is the consciousness of the individual which transforms the chaos of potential into habitable cosmos, as the greatest origin stories repeatedly insist...It is that consciousness, not the objective material substrate of Being, which should be regarded as the ultimate reality.”

17. An informative overview of some of McLuhan’s commentators’ misreadings of his work can be found in Robert Macmillan, “Marshall McLuhan at the Mercy of His Commentators,” *Philosophy of the Social Sciences*, 22, no. 4 (1992): 475-491. <https://doi.org/10.1177/004839319202200404>.

18. Magda Arnold, “Basic Assumptions in Psychology,” in *The Human Person: An Approach to an Integral Theory of Personality*, eds. Magda Arnold and John A. Gasson (New York: The Ronald Press Company, 1954), 11.

19. Arnold, 11.

20. Magda Arnold, “The Theory of Psychotherapy,” in *The Human Person*, 508.

21. Arnold, 510.

22. Magda Arnold, *Emotion and Personality*, 2 vols. (New York: Columbia University Press, 1960).

23. Magda Arnold, *Memory and the Brain* (Hillsdale: Lawrence Erlbaum Associates, 1984).

24. For a discussion of Arnold’s foundational influence on psychological research on the emotions see Rainer Reisenzein, “Arnold’s theory of emotion in historical perspective,” *Cognition and Emotion*, 20, no. 7 (2006): 920-951. <https://doi.org/10.1080/02699930600616445>.

25. Arnold, *Emotion and Personality*, vol. 1, 73. “There must be an estimate that one kind of functioning is good, that is, favorable for the organism, another unfavorable, before the one can be felt as pleasant, the other as unpleasant...The traditional philosophy has called this sense-like process the ‘estimative sense’ and has considered it one of the internal senses, together with memory and imagination.”

26. For Arnold’s discussion of the *sensus communis* in neurological terms see Magda Arnold, “The Internal Senses – Functions or Powers?: Part II,” *The Thomist: A Speculative Quarterly Review*, 26, no. 1 (1963), 16. <https://doi.org/10.1353/tho.1963.0033>

Arnold writes “the sensorium of the *sensus communis* seems to be the feltwork of cortical connections between the afferent and the efferent layers, both in the sensory and the adjoining association cortex. Though the *sensus communis* is one power, it is specified by its acts; and its acts are the intentional representations of the activity and content of different sense modalities. For this reason, we should not be surprised to find that the visual cortex is necessary for perceiving visual objects, the auditory cortex for perceiving direction and pattern of sound, the cortex of the somatosensory area for perceiving an object by touch, etc. The unity of the *sensus communis* is preserved by the connection of every cortical sensory area with every other such area, both via short and long association fibers. The primary sensory cortex seems to mediate the perception of objects, but the adjoining association cortex seems to make possible the retention of sense impressions. There are relays from the sensory thalamic nuclei distributed both to the primary sensory areas and to the adjoining association areas. For this reason, we are inclined to postulate two functions of the *sensus communis*: one

of constructing its intentional image (mediated by the primary areas), the other that of retaining it (mediated by the association areas)."

27. Julien Peghaire, "A Forgotten Sense: The Cogitative According to St. Thomas Aquinas," *The Modern Schoolmen*, 20, no. 3 (1943), 124. <https://doi.org/10.5840/schoolman194320358>.

28. Thomas Aquinas, *Summa Theologica*, trans. Fathers of the English Dominican Province (1920), I.78.4. <https://www.newadvent.org/summa/1078.htm#article4>.

29. Anthony J. Lisska, *Aquinas's Theory of Perception: An Analytic Reconstruction* (Oxford: Oxford University Press, 2016), 241.

<https://doi.org/10.1093/acprof:oso/9780198777908.001.0001>

30. Peghaire, "A Forgotten Sense," 139.

31. Peghaire, 140.

32. Aquinas, I-II.17.2 ad 3.

33. Julien Peghaire, "A Forgotten Sense: The Cogitative According to St. Thomas Aquinas," *The Modern Schoolmen*, 20, no. 4 (1943), 228. <https://doi.org/10.5840/schoolman194320448>.

34. See Arnold, *Memory and the Brain*, 127. "I have argued...[that]...appraisals are mediated by a special neural system that receives relays from sensory and motor systems. It includes the afferent connections from sensory receptors to brain stem reticular formation, intralaminar and midline thalamic nuclei, and the limbic cortex. I have proposed to call this system the estimative system or appraisal system because it mediates appraisals or estimates – just as the sensory system is so called because it mediates sensations. The appraisal system, then, functions on three levels; the peripheral-spinal, subcortical, and cortical level."

35. For a useful summary of Arnold's discussion see Elissa N. Rodkey, "Magda Arnold and the Human Person: A Mid-Century Case Study on the Relationship Between Psychology and Religion," *YorkSpace Institutional Repository*, 2015, 282. <http://hdl.handle.net/10315/30691>.

Rodkey writes, "One can contrast [Arnold's] line of thinking with previous theorizing as Arnold reviews Charles Darwin, William James, Carl Lange, John Dewey, William MacDougall and Sigmund Freud. These theorists tend to frame emotions as physiological, either as the result of bodily changes (James, Lange, and Dewey, i.e. the James-Lange theory) or as instincts (Darwin, MacDougall, and Freud)."

36. Arnold, *Emotion and Personality*, vol. 1, 182.

37. Arnold, 175.

38. See Arnold, 185. Referring to a child's experience of being bitten by a dog, Arnold writes, "Intense emotion is so harmful in early childhood because the expectation it creates cannot be easily corrected by a rational estimate. For all the child knows, the dog that approaches him is a ravaging beast."

39. Arnold, 245.

40. Arnold, 191.

41. Arnold, 246.

42. Arnold, *Emotion and Personality*, vol. 2, 283.

43. Arnold, 282.

44. Marshall McLuhan, *Understanding Media: The Extensions of Man* (New York: The Penguin Group, 1964), 157.

45. McLuhan, 245.

46. McLuhan, 242.

47. McLuhan, *The Gutenberg Galaxy*, 107. McLuhan quotes Aquinas' *Summa Theologica* I.5.4. ad. 1: "The senses delight in things duly proportioned as in something akin to them; for, the sense, too, is a kind of reason as is every cognitive power"

48. McLuhan, *Understanding Media*, 51-56.

49. McLuhan, 75, emphasis in original.

50. McLuhan, 63.

51. McLuhan, *Gutenberg Galaxy*, 5, emphasis in original.

52. McLuhan, *Understanding Media*, 28.

53. Daniel D. De Haan, "Perception and the *Vis Cogitativa*: A Thomistic Analysis of Aspectual, Actional, and Affectional Percepts," *American Catholic Philosophical Quarterly*, 88, no. 3, 419. <https://doi.org/10.5840/acpq20147323>.

54. Arnold, *Memory and the Brain*, 54.

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