

# The Post-Aristotelian Academic Library as a Tool for Exclusion

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The ancient Library and Museum of Alexandria (hereafter referred to as the “Library” and “Museum”) were colossal intellectual achievements. Ptolemy I (Soter) (lived ca. 347-382 BCE) founded these institutions, a massive academic library and its associated community of scholars, ca. 300 BCE. Demetrius of Phalerum (lived ca. 350-280 BCE), an Aristotelian philosopher, organized the Library, and the Library and Museum represented the pinnacle of ancient scholarship and science until their ultimate destruction.

The Library *as concept* extended through the millennia to the present day. It survived the bleak European Middle Ages, a time that scorned the pursuit of scientific knowledge as pagan and vile.<sup>1</sup> It inspired Arab scholars of the first millennium CE, who were untouched by the rabid anti-intellectualism of medieval Western Europe. The memory of the Library’s greatness passed into the European enlightenment. Renowned historian Edward Gibbon referred to Alexandria’s Greek quarter as “the residence of kings and philosophers,”<sup>2</sup> and he wrote that, “every scholar, with pious indignation has deplored the irreparable shipwreck of the learning, the arts, and the genius of antiquity” caused in some measure by the loss of the Library.<sup>3</sup> Today, scholars and journalists frequently compare modern innovations and institutions to the Library, including the World Wide Web. And, in the first decade of the twenty-first century, a new library opened in Alexandria “dedicated to [recapturing] the spirit of openness and scholarship of the original *Bibliotheca Alexandrina*.”<sup>4</sup>

This paper explores the shift in the meaning and use of recorded language found with the Library and Museum, and that shift’s role in structuring modern ideas of scholarly

communication. It argues that Aristotle's philosophy and science shifted the purpose of library collections from a paradigm of cultural/political maintenance to one of theoretical knowledge creation. In spite of its modified role, the "post-Aristotelian library" served a similar purpose as pre-Alexandrian information institutions (hereafter referred to as "protolibraries"), as a tool for the hegemonic domination of minority groups by cultural elite. This finding warrants a critical reevaluation of the ideological foundations of the modern academic library. This study hopes to encourage positive change in modern information institutions through introducing counter-hegemonic viewpoints.

## From Stream of Tradition to Knowledge Creation

The philosophy of Aristotle of Stagira (lived 384-322 BCE) was the catalyst for profound change in the purpose and use of collections of recorded documents. Prior to Aristotle, the motivating "philosophies" behind the Near Eastern protolibraries were wholly pragmatic and conservative. Protolibraries helped keep societies in working order; Mesopotamian, pre-Alexandrian Egyptian, and Mycenaean protolibraries maintained the dominant cultural and political values of the civilizations that they supported. There is very little evidence concerning Archaic and Classical Greek libraries, but they appear to have served as community archives,<sup>5</sup> or personal collections. Most of these collections, however, were from the Ptolemaic era or later, and all of the ancient references to Archaic and Hellenic collections, besides those to Aristotle, provide little beyond the bald fact that the person collected scrolls, arguably *prestige objects* collected by *bibliophiles*, not scholars.

This custodian role developed because of the limitations of the civilizations' syllabic scripts and the development of elite scribal classes that maintained a stake in conserving their socio-cultural status.<sup>6</sup> Furthermore, the imprecise syllabic scripts and the scribes' wholly pragmatic use of information hindered the development of philosophy and theoretical science, helping to maintain the cultural/political *status quo*. The effective rulers of Near Eastern societies were literate male bureaucrats: scribes who derived their authority from (1) the king (or pharaoh) and (2) their ability to read and write. These wealthy men, of course, had a stake in maintaining their positions; protolibraries served the practical purpose of preserving societal institutions and traditional hierarchical power structures.

In view of this, it is unsurprising that pre-Alexandrian scribes never used document collections for the production of theoretical knowledge. Communication theorist Robert Logan argued that the limitations of the scripts prevented the creation of theoretical science by not allowing an adequate medium for developing the necessary abstract concepts, nor providing the precision necessary for expressing them (or disputing them).<sup>7</sup> Assyriologist A. Leo Oppenheim, in fact, found no evidence of polemic or dialectical argument in the syllabic literature.<sup>8</sup> Much of the "scholarly" material in the Mesopotamian protolibraries consisted of pseudo-scientific divination texts. Library historian Laura Arksey described these as "a phenomenon is described (an event, the behavior or feature of an animal, the position of the stars, etc.), and opposite that description is the statement of what should happen to the country, the king, or some other individual as a result."<sup>9</sup> Both Mesopotamian and Egyptian "science" served purely practical purposes (the Mycenaean civilization had no recorded science of any kind). For example, the scientific texts found at the ancient palace protolibrary of Ebla (ca. 2600-2400 BCE) contain lists of what was "then knowable:" "encyclopedias" of animals, stones, plants, and metals [15, pp.

235-236].<sup>10</sup> While these scientific works are enumerative and descriptive, there is no evidence of attempts to build abstract theory.

Largely because of this conservative intellectual stasis, Near Eastern protolibraries were essentially the same in form and function from the beginning of the Bronze Age to the rise of Alexandria. Modern scholars tend to regard the Great Library of Assurbanipal (king of Assyria ca. 669-631 BCE) as the first “modern” library, see.<sup>11</sup> But, for all of its novelties, such as the proto-library’s relatively massive size (20,000 tablets), Assurbanipal’s protolibrary appears little different in its essential purpose than other Mesopotamian protolibraries; the scribes did not use the king’s library for theoretical knowledge creation.

These protolibraries *maintained* the structure of the society through perpetuating cultural “streams of tradition” embodied in archival records and millennia-old authoritative canons of “literature.”<sup>12</sup> The following excerpts from the late period Babylonian (ca. first millennium BCE) poem, “In Praise of the Scribal Art” (generally considered to be a school text for copying),<sup>13</sup> sums up the position of the scribe, the esoteric nature of the script, and the use of writing for pragmatic purposes as well as control [emphasis added]:

The *scribal art is not easy to learn*, but he who masters it  
 will no longer be intimidated by it...  
 ...Work ceaselessly at it and *it will reveal its secret lore to you*...  
 The scribal art is *a good lot, one of wealth and plenty*.  
 When you are a youngster, you suffer,  
     when you are mature, you [prosper] ...  
 ...To learn Sumerian is the highest learning,  
     The standard (?) (form), the dialect form,  
 To write a stela, *to measure a field, to balance accounts, ...*,  
 [ ] the palace [...],  
*The scribe shall be its servitor,*  
     *he shall call others for forced labor!*<sup>14</sup>

Things changed noticeably, however, with the full flowering of Hellenic philosophy.

The development of western philosophy likely resulted from a combination of (1) the Greek alphabet, which allowed for precise written expression, as opposed to the clumsy approximations of the syllabic scripts, (2) the Greeks' rich oral tradition [21], and (3) the Greeks' general disposition towards skepticism and inquisitiveness. Unlike the Near Eastern practical and pseudo-sciences, Greek philosophy rested ultimately on epistemologies that employed human reason to describe reality. Considering the three factors above, it seems that it was only a matter of time before the *methodical use* of recorded language in the philosophical process of creating new knowledge.

However, while archaic and classical Greek protolibraries prior to the flowering of Aristotle's philosophy and science contained works of literature, there is no evidence that scholars used the collections as part of a systematic process in the creation of theoretical knowledge. Plato, the most eminent philosopher prior to Aristotle, even wrote that one *could not* use recorded materials in such a process.<sup>15</sup> The first known western thinker to establish a *document based method of philosophy and science* was Aristotle of Stagira. With this intellectual innovation, the basic purpose of the "academic" library collection shifted from warehouses of information to dialectical instruments.

Aristotle's epistemology necessitated the use of library collections as a form of "pre-science" required prior to his scientific method of "logical demonstration." This scientific method culminated in the construction of tripartite syllogisms consisting of a major premise, a minor premise, and a conclusion that follows the two premises out of necessity. The classic example of a syllogism in this form is "All men are mortal [major premise]. Socrates is a man [minor premise]. Therefore, Socrates is mortal [conclusion]." Assuming that both premises are valid, the conclusion that Socrates is mortal follows necessarily because of the major and minor

premises sharing “man” the middle term, or *cause*. The cause of Socrates’ mortality is because he is a man. To have provided a “demonstration” of such a *cause* through an airtight syllogism based ultimately on the unarguable (and non-provable) *axioms* of a particular science is to have scientific knowledge, *episteme*, of why a thing cannot be otherwise. Scientists then organize these *reasoned facts* hierarchically to map the sciences and describe reality.

Aristotle’s method, however, differed from those of his predecessors in that it fully validated and carefully systematized the use of esteemed opinions (*endoxa*) for the purpose of scientific discovery (Plato tended to discount “mere” opinion as a shadow of true reality). Aristotle’s dialectic, i.e., the *pre-scientific* process prior to the hierarchical classification of knowledge through scientific demonstration, requires the *collection* and *analysis* of *endoxa* in the preliminary stages of theoretical knowledge creation.

Aristotle wrote in his *Metaphysics* that humans, by nature, seek the truth.<sup>16</sup> The opinions of experts, therefore, contain some share in the objective truth. The dialectical analysis of these experts’ *endoxa*, i.e., the opinions’ assay through logical tools, allows the philosopher and scientist (for Aristotle philosopher and scientist were the same) to “detect more easily the truth and error about the several points that arise” in the preliminary stages of research.<sup>17</sup> Dialectic, furthermore, allows the philosopher to discover the *a priori* first principles (i.e., the axioms) from which the scientific classification of knowledge may next proceed.<sup>18</sup>

It is a commonsense conclusion that knowledge-based documents serve a function in Aristotelian pre-science, as these documents are effectively *materialized endoxa* (that is, they are explicit knowledge: inscribed esteemed opinions). Aristotle performed dialectical surveys of past thinkers in *every one* of his treatises. The following example is from the *Physics*, in which Aristotle considers the views of past scientists:

The principles in question [i.e., the substrata of reality] must be either one or more than one. If one, it must be either motionless, as Parmenides and Melissus assert, or in motion, as the physicists hold, some declaring air to be the first principle, others water. If more than one, than either a finite or an infinite plurality. If finite (but more than one), then either two or three or four or some other number. If infinite, then either as Democritus believed on in kind, but differing in shape; or different in kind and even contrary.<sup>19</sup>

Following this review, the Stagirite then discussed what was correct and incorrect in these esteemed opinions before providing his own contributions to the science. Considering that Parmenides, Melissus, and Democritus all flourished in the mid-to-late fifth century BCE (years before Aristotle's birth) and that these men were themselves authors of great *written* treatises, Aristotle would have used their *books* as *data* for his philosophical work. With Aristotle, the purpose of the library collection evolved out of practical necessity. Collections of books were no longer "archives" for the maintenance of socio-political memory, nor were they vanity items for Greek tyrants and *bibliophiles*. *Libraries* (as opposed to protolibraries) were philosophical tools used in the systematic creation of knowledge.

Aristotle's small personal library served as such a stock of derived *endoxa* for engaging in dialectic. He explained in his treatise the *Topics* how to manipulate these *endoxa* in the pre-scientific process, as well as how to organize the *materialized endoxa* for their efficient use in philosophy and science. The process included the collection, classification, and cataloging of *endoxa*, and was based on codified philosophical and logical *theory*.

Aristotle and the scholars of his school, the Lyceum, used Aristotle's library of *materialized endoxa* in the process of creating knowledge. For example, the library included the 158 *Constitutions of Greek Cities*. These *Constitutions* likely served as reference resources for investigations in political science and ethics such as Aristotle's *Nicomachean Ethics* and *Politics*. Furthermore, the Lyceum library's stock of *endoxa* continued to grow in size because of the

scholarship at the school. For example, the natural historian Pliny the Elder (fl. mid first century CE) wrote that a massive 50 volume collaborative work on zoology was included in the collection.<sup>20</sup>

Demetrius of Phalerum, a student of Aristotle's protégé Theophrastus, realized the Library of Alexandria at Ptolemy's behest (Ptolemy himself had likely heard Aristotle lecture at the royal school of Mieza). The Library *institutionalized* Aristotelian pre-scientific theory (i.e., dialectic) and served the scholars of the Museum in their process of knowledge creation. The Alexandrians, like the Aristotelians, then added their own contributions to knowledge to the Library collection. Later scholars in turn used the collection to find relevant *endoxa* for their scholarly pursuits.

There are numerous examples of the Alexandrians' use of post-Aristotelian document-based dialectic for knowledge creation. The Alexandrian grammarians Zenodotus (born ca. 325 BCE) and Aristarchus of Samothrace (lived ca. 216-144 BCE) analyzed alternate versions of Homer's work along with other relevant philological *endoxa* to create authoritative editions. The geometer Apollonius of Perga (fl. second half of the third century BCE) reviewed the discoveries of previous mathematicians in the process of arriving at his own theorems.<sup>21</sup> Even the Egyptian geographers carefully collected and analyzed expert *endoxa* as an integral part of their scientific method. The first century BCE Greek geographer Strabo wrote in his *Geography* [emphasis added]: "... the *greater part of our material* both they [other geographers] and I *receive by hearsay* and then form our ideas of shape and size and also other characteristics, qualitative and quantitative, precisely as the mind forms its ideas from sense impressions..."<sup>22</sup>

Scholars used the Library (and other post-Aristotelian libraries such as the great library of Pergamum, founded first half of the third century CE) as a dialectical tool into late antiquity. For example, Ptolemy of Alexandria (fl. 127-148 CE) used extensive references to the works of his scientific forebears to develop his own astronomy in the *Almagest*. Shortly afterwards, the Greek

physician Galen (fl. second half of the second century CE) advocated the review of expert *endoxa* before logical demonstration in his *On the Natural Faculties*:

The fact is that those [physicians] who are enslaved to their sects are not merely devoid of all sound knowledge, but they will not even stop to learn [from *endoxa*]! Instead of listening, as they ought, to the reason why liquid can enter the bladder through the ureters, but is unable to go back again the same way [an *endoxon*]... they refuse to learn.<sup>23</sup>

Library collections became *necessary* in a *methodical process of knowledge creation* (and the Museum scholars produced some of the greatest scholarly works ever known).

This Aristotelian substratum and its application ultimately differentiate the Library from the preceding information institutions. The Library realized Aristotle's philosophical innovations and shifted the prevailing paradigm of the information institution from entities that *statically* maintained the intellectual traditions of a civilization to entities that *actively* created new theoretical knowledge. Whether the Museum scholars used the Library in a strictly Aristotelian manner is ultimately unimportant: Aristotle's pre-science had changed the *perceived* use of collections of knowledge-based resources based upon a distinct philosophical theory. Modern academic institutions likewise model their libraries on this post-Aristotelian ideal, with little consideration of its potential as a tool for socio-cultural control.

## Challenging the Post-Aristotelian Paradigm

Thus far, this discussion has asserted that the dominant "post-Aristotelian" paradigm of the academic library originated in Aristotelian philosophical thought and that one may identify post-Aristotelian academic libraries by the use of their collections for the methodical production of knowledge. This paradigm has remained intact from classical antiquity to the modern period.

The modern academic library, therefore, represents two and half millennia of orthodox views of “what it means to do science.”<sup>24</sup> These views are rooted in the foundationalist epistemology of Aristotle, an epistemology that requires the careful organization and manipulation of the “esteemed opinions” of eminent scholars in order to make legitimate knowledge claims about reality. This view of science is ingrained in our modern conception of what is “real,” what is “fact.” We are forced “to see the emperor’s new clothes,”<sup>25</sup> regardless of the legitimacy of knowledge statements.

Modern scholars, fortunately, are presented with “a proliferation of contending paradigms [that is] causing some diffusion of legitimacy and authority.”<sup>26</sup> Critical and cultural studies approaches offer researchers the analytical and conceptual tools necessary to examine structures of social power that have been institutionalized and used to dominate minority groups. Postmodernist views such as feminism and queer theory have identified culture as a “domain of struggle” in which the creation and transmission of knowledge is contested between the dominant culture and minority groups.<sup>27</sup> Considering the importance of academic libraries in forming and legitimating conceptions of reality and “truth,” they warrant further analysis as cultural institutions and potential implements for establishing and enforcing hegemonic control.

It is tempting to conclude that the Library and Museum subverted millennia of scribal power and replaced narrow and stagnant canons of literature with a wide-ranging, ever-expanding body of philosophy, science, and art. In this view, philosophy shifted the dominant intellectual paradigm from the authoritative “streams of tradition” to a visionary intellectual milieu of unrestrained knowledge creation. It is likewise tempting to conclude that the custodians of this brave new world of scholarship were rational, enlightened philosophers and scientists with no explicit or implicit ulterior motives besides “objective” knowledge creation. This

idealization of post-Aristotelian scholarship, the Library, and the subsequent institutions of higher learning that emulated the Museum and Library is in need of critique from alternative perspectives. A feminist perspective allows for valuable insight into how Alexandrian scholarship maintained the *status quo* and the hegemonic authority of the dominant cultural elite. Aristotle scholar, Cynthia Freeland noted that Aristotle's dialectical method is ripe for reconsideration;<sup>28</sup> what follows is an attempt to provide such a critique.

A powerful indictment of the utopian view of the Library and Museum is the argument that the Alexandrian institutions were used as tools for entrenching male Greco/Macedonian hegemony. This control buttressed the male elite's cultural and political domination over women, slaves, and non-Hellenized peoples under a post-Alexandrian Macedonian political authority. The Alexandrian scholars, as well as the philosophical tenets that were the basis and determinants of their inquiries, legitimated the culturally and politically conservative (and socially oppressive) end of perpetuating the elite class of wealthy, leisured, Greek (or hellenized) males. And, although it is inaccurate to conflate the Alexandrian scholars' monopoly on knowledge with the Near Eastern and Egyptian scribes' "stream of tradition," both the Greco/Macedonian and the "scribe driven" civilizations' protolibraries were ultimately exclusionary entities. Both served as instruments for cultural/political dominance.

## Philosophy as a Tool for Domination

The women of ancient Greece were, from the archaic period forward, treated as inferior to Greek men. Even if a woman was a member of the Greek upper class, she effectively had no power, wealth, or influence.<sup>29</sup> The Greeks relegated females to predetermined roles. Women

were slaves, prostitutes, or veiled “decent” women forced into lives of “complete invisibility.”<sup>30</sup> “Free” women, like children and slaves (and one must remember that many women were literal slaves), were essentially the property of male family members. Feminist political philosopher Susan Moller Okin wrote that this identification of women with property had, by the end of the fourth century BCE and the beginning of the Hellenistic age, become “automatic to the Greek mind.”<sup>31</sup> Feminist philosophers and cultural studies scholars have argued that foundationalist ways of knowing, such as those of the ancient Greeks, have served as instruments for consolidating this elite male domination as well as eclipsing other valid ways of knowing. For, as feminist philosopher of education Barbara J. Thayer-Bacon wrote, “traditional Epistemology [the capitalization signifies an assumption of absolutism] has *not* been able to present a generality but rather has represented a male perspective as if it is general, neutral, and inclusive of women.”<sup>32</sup>

Feminist historian of philosophy Genevieve Lloyd held that Greek philosophy developed into an effective tool for controlling women: “From the beginnings of philosophical thought, femaleness was symbolically associated with what reason supposedly left behind, the dark powers of the earth goddesses.”<sup>33</sup> This fear of feminine power resulted in what Lloyd identified as the separation of the “rational” male from the “irrational” female. The dichotomous categorization of the sexes into positive (male) and negative (female) maintained the intellectual and political superiority of the male. It artificially excluded women from sharing in rationality and reason, and, by the sixth century BCE, Lloyd argued that “male-centric” philosophy had become the dominant paradigm for establishing objective truth.<sup>34</sup> The superiority of elite males, when backed by the epistemic authority of philosophy, justified the subjugation of women and other minorities (both male and female) by Greek men. Philosophy cemented these “others” as being excluded from “defining reality” and forced their acceptance of elite-determined “truths.”

Even Plato, who argued extraordinarily in the *Republic* that “Men and women alike possess the qualities which make a guardian [a philosopher ruler of the ideal state]”<sup>35</sup> and who is considered a proto-feminist philosopher by some scholars, was accused of de-sexing women in the process of transforming them into philosopher rulers. Feminist scholar Arlene Saxonhouse argued that Plato’s women philosophers were no longer female:

By forcing her to participate in the activities of the male warriors and later philosopher rulers, Socrates [Plato’s mouthpiece in the *Republic*] removes from woman her original *phusis*—that particular specialty in which she excels. Woman’s sexual, bodily nature is forgotten and she becomes almost irrelevant in Socrates’ best city.<sup>36</sup>

Feminist historian of philosophy Jane Roland Martin went further than Saxonhouse in her critique of Plato’s “philosopher queens.” Martin concluded that the women guardians, through taking on traditional masculine traits like aggressiveness, *became* men.<sup>37</sup> There was no room in Plato’s philosophy, as a result, for the natural female. Plato’s stratified *Republic* is easily accused, in fact, of proposing the establishment of an elite class of intellectuals (the guardians) which elevates those who best embody the ideals of the “rational Greek male.”<sup>38</sup>

Plato’s views on women present what Okin referred to as a seemingly “unresolvable enigma”;<sup>39</sup> a tension exists between the equality of the *Republic* and the many deeply misogynistic statements found in the *Republic* and other dialogues. For example, although Plato offered women equivalent social status to men in his republic, he said that they were inferior to men in almost every field,<sup>40</sup> and he claimed in the *Timaeus* that females were cowardly males reborn as women.<sup>41</sup> While these contradictions are often passed over by modern scholars as “lapses,” Okin countered, “Plato was not the kind of thinker we can readily believe forgot his beliefs, especially on a subject to which he devoted considerable amount of attention in some of his major dialogues.”<sup>42</sup> Plato’s attitudes towards women, while superficially contradictory,

suggest the dismissal of the female based upon a male-centric ontology; philosophy became a tool for domination, and if women did not “become” men, they remained inferior.

## Philosophy and Class Structure

Freeland argued that the exclusion of women was not so much the result of sexism as it was class bias.<sup>43</sup> The treatment of women by the Greek male elite was one symptom of a wider program of oppression through class stratification. Greek philosophical thought, culminating with the political and biological works of Aristotle, was a tool for stratification, it subordinated all “others” (i.e., females, slaves, etc.) hierarchically below Greek male citizens (even *metics*, free Greek male non-citizens, were inferior; ironic considering that Aristotle was not a citizen of Athens).

Although political power in the late classical and Hellenistic periods remained largely in the hands of powerful—but not particularly philosophical—men, the “philosophical hegemony” of Plato’s ideal republic was arguably institutionalized *de facto* by the Academy, Lyceum, and Museum of Alexandria. The ancient Greeks’ philosophical history routinely supported the intellectual exclusion of women and minority groups through its legitimization of a classed society.

Aristotle, like nearly every post-Platonist until the dawn of the modern age, ignored Plato’s arguments for female equality but embraced Plato’s class stratification of society. In his *Politics*, the Stagirite considered both females and slaves as subhuman because of a supposed deficiency of deliberative faculty.<sup>44</sup> Aristotle also excluded non-Greeks, whom he considered brutes and “natural slaves” and therefore easily and legitimately enslaved and controlled by the

rightful rulers of the world, the Greeks: “For foreigners, being more servile in character than Hellenes, and Asiatics than Europeans, do not rebel against a despotic government. Such kingships have the nature of tyrannies because the people are by nature slaves.”<sup>45</sup>

In the case of slaves and foreigners, this inequality resulted from what Aristotle perceived to be a *complete* lack of rational capability. Although Aristotle allowed women some limited use of reason, he considered them inferior to men for biological reasons. Aristotle wrote in his *On the Generation of Animals* that females were impotent males malformed because of a lack of uterine heat during their mothers’ pregnancies.<sup>46</sup> The philosopher even classified women as “monstrosities”—but monsters necessary for the perpetuation of the human *species*.<sup>47</sup>

So, although Greek male citizens were fully human and superior to all lower strata of humanity, women and slaves remained necessary to society, but were ultimately inferior.<sup>48</sup> Feminist classicist Elizabeth Spelman contended that without the continued subjugation of women and maintenance of a system of slavery, both characteristics of the “well-ordered” Greek city-state, the *polis*, would ultimately fail.<sup>49</sup>

## Logic as a Tool for Exclusion

How did the Greeks justify this philosophical segregation? Specifically, the philosophical use of logic may be charged with providing substantially for the continued subjugation of women and other minorities and doing so under the aegis of reasoned truth. Logic, an artificial language, limits available knowledge and discourse concerning the “truth.” The late nineteenth century pragmatist philosopher William James concluded that no logic was capable of capturing the theoretical nature of reality, which “exceeds our logic, overflows and surrounds it.”<sup>50</sup> The Greek

philosophers combined their foundationalism with the use of argument; a process inherently biased towards the purposes of the particular logic's innovators, in this case the elite male intellectuals. The result was a limited set of truths, and truths were used to exclude opposing viewpoints and enforce control.

Feminist historian of philosophy Andrea Nye identified the *philosophical use of logic* as the elite Greek male's tool for consolidating and maintaining power. Plato's method of division, the proto-logic that greatly influenced Aristotle's formal logic and science through its hierarchical ordering of reality, rigidly compartmentalizes what is "knowable." Plato's division is a binary system in which every *genus* is divisible into two *species*, forcing the respondent of a philosophical discourse into one of two predetermined answers (e.g., the *genus* "exchange" is divisible into either "giving" or "selling," with no other possible *species*).<sup>51</sup> This variation of the Socratic dialogue from Plato's later period prevents two-sided discussion.<sup>52</sup> There is no middle ground in Platonic division, and the "target" of the logical exchange is forced into accepting reality as defined by the philosopher logician, who holds *epistemic* authority.

Therefore, the elite male—the philosopher—has complete control of the philosophical conversation through his control of logical division (and if Jane Roland Martin was correct in her conclusion that Plato "masculinized" *all* of the ideal city's guardians, there is never the possibility of anything but male determined categories in Plato's division). He determines the only possible choices that his conversational partner is allowed to make and tells them how they *must* perceive reality (otherwise, they will be exposed as insane or idiotic).<sup>53</sup> Theaetetus, a young Athenian, assumes the role of passive respondent in the *Sophist*. He does not waver from Plato's Procrustean formula of logical division, selecting from the two predetermined choices, and is made to look the fool if he questions the logic of the questioner (identified in the *Sophist* as "the

Stranger”). Nye held that since women and slaves lacked any political power, they were forced to bow to the “intellectual superiority” of Greek men and “made to play the role of Theaetetus.”<sup>54</sup> The minority groups of ancient Greek society agreed to the boundaries established by the philosophers. Reason became a method for defining reality for a specific elite group (the philosophers), and using the authority given by philosophy to enforce political control of those who fell outside of this reality.

The stage was set for Aristotle’s “scientific” subjugation of women and minorities. Aristotle took the inflexibility of Platonic division, with its ability to force thought into inviolable categories, and associated it with his *episteme* (scientific knowledge). Aristotelian logic, with its “skillful combination of terms in statements to produce necessary conclusions,”<sup>55</sup> and scientific capability of establishing *cause* (i.e., the essence of a thing, what specifies it from its *genus*) gave these same elite Greek male philosophers and scientists the authority to determine what was objective *truth*. And for Aristotle, to speak openly against what was considered objective truth was nothing but incoherent babbling. The philosophers and scientists now had the ability to back their conclusions with indisputable and watertight logical arguments.

According to Nye, Aristotle’s logic establishes *cause* beginning with the individual *species* (e.g., man) and then proceeds to define *genus* (i.e., animal). For Aristotle, the substance “man” (who was in actuality the Greek male citizen) was the paradigmatic starting point for classifying *everything* in the *cosmos*. Man’s cause, his *rationality*, is actually an artificial conclusion derived from a preconceived idea of how the male philosopher perceives himself. The use of formal arguments to construct structurally correct syllogisms around this cause gives the assertion the weight of truth: “Logic needs no respondent [there is no room left for argument]; it

has reduced to silence any possible hearer and even the second thoughts of the logician himself.”<sup>56</sup>

After establishing the superiority of the narrowly defined substance “man” by assigning him rationality as his formal cause (his essence), Aristotle was then able to subordinate all other substances to man. Women, slaves, and everything other than this Aristotelian “man,” groups that the Greek philosophers did not perceive as fully realizing the rational principle in the manner they themselves did, were duly subordinated through science.<sup>57</sup> Logical demonstration removed minority groups from intellectual discourse.

## Aristotelian Pre-Science and Exclusion

Considering that Aristotle’s *logical* method of dialectic relies on sets of esteemed opinions or *endoxa*, the removal of voices from the philosophical conversation limits the truths available for post-Aristotelian science. Freeland argued that the Aristotelian dialectical knowledge base was patriarchal and predominately male: the limitations set by Aristotle’s logical method *gendered* dialectic and the scientific enterprise.<sup>58</sup> Aristotle’s science *de facto* excluded the opinions of women, slaves, and, to a lesser extent, non-Greeks from any stockpile of *endoxa* used in dialectic. Tellingly, nearly all of Aristotle’s surveys of expert opinion are limited to the opinions of male elite intellectuals: the Greek philosophers, scientists, and poets. There are no opinions of women experts counted as *endoxa*.<sup>59</sup>

Chauvinism, actuated by logical argument, narrowed the range of what *endoxa* was acceptable and put artificial limits on the *endoxa* contained in the post-Alexandrian ancient academic libraries. Thayer-Bacon argued that the restriction of communication to “scholars” or

“experts” “limit[s] the reach of our understandings... Our standards of epistemic worth are not independent of the particular inquirer seeking to establish the standards...”<sup>60</sup> Aristotle scholar Jonathan Barnes noted that the vicious restriction of the pool of *endoxa* to male elites excluded *truths* from consideration in the dialectical process. As a result, Aristotle’s pre-science “refused to consider certain propositions as possible bearers of the truth.”<sup>61</sup>

Members of the Museum were exclusively what Freeland termed “the great men, the wise, powerful, and famous ones,” those who created and had access to scholarship that incorporated an Aristotelian “conservative deference to tradition—of course in [Aristotle’s] case a patriarchal tradition.”<sup>62</sup> Although the Hellenistic world saw the elevation of many “barbarian” men to the status of “human” through their adoption of Greek culture (they lost part of their identity to become Greek men), women and slaves remained politically disenfranchised, philosophically excluded, controlled, and exploited.

## The Academic Library as Conservative Force

Aristotle’s logical/philosophic method served as a foundation for the Library of Alexandria’s collection. The Library represents a *materialization* of Aristotelian philosophy. Scholars must reconsider the Library as the elite male intellectuals’ tool for imposing and maintaining hegemonic control over the minority groups of the Hellenistic world. The body of recorded *endoxa* maintained and produced at the Library was a source of this continued domination. This Alexandrian *endoxa* defined truth and served as the primary tool for creating new truths. Post-Alexandrian academic libraries institutionalized the collection of “elite *endoxa*” as a necessary component of “science” and legitimized (consciously or not) the exclusion of

other groups and ways of knowing. Greek philosophy rendered alternative epistemological approaches invalid.

Because of their supposed capacity to realize best the rational principle, the *endoxa* of Greek male elites imposed and perpetuated authority concealed by appeals to reason. The lack of outside viewpoints and alternative perspectives limited the possible knowledge obtained from using the collection of *endoxa*. New knowledge, as a result, remained firmly within the Epistemological limitations established by the collection. Feminist historian of science Nancy Tuana pointed out that Galen, for instance, although responsible for great advances in medicine, perpetuated the Aristotelian idea that women were malformed, “half-baked” men.<sup>63</sup>

In light of the argument that Aristotelian philosophy served to limit credible knowledge to the opinion of a small class of intellectual elite, the post-Aristotelian Hellenistic academic libraries do not appear terribly different than the Near Eastern protolibraries in terms of their use to maintain the *status quo*. The protolibraries served the interests of the scribal class, also elite males. Similarly, through defining what is “real” or “acceptable,” the dominant cultures of the post-philosophical ancient West used logical method to put limits on knowledge and entrenched the academic library as a tool for perpetuating the ruling class. And, if Greek philosophy was responsible for separating the knower from the known, making knowledge external, objective, and removed from everyday lives,<sup>64</sup> the Library represented the ultimate expression of this idea. The truth, the known, became the *physical* property of the intellectual elite and the state. The scrolls of the Library remained firmly under the control of the dominant culture.

## Enduring Consequences?

Culturally or politically successful ideas tend to become philosophical, scientific, or religious dogma. William James wrote that a philosophical “truth” was “a useful practice first becoming a method, then a habit, and finally a tyranny that defeats the end it was used for.”<sup>65</sup> Two tyrannical ideas (tyrannical over women and minorities) born of Greek philosophy were the notions that truth is *objective* and that truth is *indisputable*. Aristotelianism became a restrictive method of defining people, limiting their realities, and placing knowledge out of the reach of many. Aristotle not only created the logic necessary for “proving” objective truth, but also constructed and recorded the *method* for systematically achieving success at the venture. He cemented philosophical schools as the loci for performing and teaching this method, and he inspired, most notably realized in the Library, the use of recorded collections of documents for maintaining and extending this domination.

Eighteen hundred years after Aristotle, the medieval Christian philosopher Thomas Aquinas (lived ca. 1224-1274 CE) used *endoxa* (Aristotelian and biblical) to maintain the idea that women are necessary, hierarchically subordinate “monstrosities.”<sup>66</sup> Elsewhere Aquinas used a *collection of books* to synthesize *endoxa* from Plato, Andronicus of Rhodes (fl. first century BCE), Cyprian (lived ca. 200-ca. 58 CE), John Chrysostom (lived ca. 354-ca. 407 CE), and Augustine (lived 354-430 CE) to provide a logical argument for why women should maintain modesty in their outward apparel.<sup>67</sup>

The Renaissance saw a continuation of the Aristotelian scholasticism of the middle ages,<sup>68</sup> and “in the sixteenth [century CE] he [Aristotle] reigned almost supreme in Europe and America.”<sup>69</sup> The sixteenth century Spanish theologian Juan Ginés de Sepúlveda (lived 1494-1573 CE) even used Aristotle himself as an authoritative source of *endoxa* to argue that Amerindians were “natural slaves” and therefore legitimately conquered and enslaved:

Sepúlveda declared that “[the Amerindians are] as children to adults, as women are to men. Indians are as different from Spaniards as cruel people are from mild people.”<sup>70</sup> Women and marginalized “others” like the Amerindians were again relegated to the role of Theaetetus (and *endoxa*, again, was used to perform the deed). They could do effectively nothing but accept these philosophers’ conclusions as truth or pay the consequences. Even in the late twentieth century, studies like *The Bell Curve* drew upon the body of expert *endoxa* to help perpetuate class stratification. Richard J. Herrnstein and Charles Murray’s identification of the “cognitive elite” appears unnervingly and negatively Aristotelian.<sup>71</sup>

Fortunately, there are visible cracks in the post-Aristotelian paradigm. Communication theorist Harold Innis wrote that “Western civilization has been profoundly influenced by communication and that marked changes in communications have had important implications.”<sup>72</sup> Innis theorized “oligopolies of knowledge,” in which groups control communications media to maintain power and argued that inventions “in communication compel realignments in the monopoly of knowledge.”<sup>73</sup> Cuneiform script aided in the rise of the scribal elite, and the alphabet helped replace this intellectual *junta* with the knowledge monopoly of the philosopher and scientist. Following Innis’s reasoning, the major changes in information technology of the late twentieth century and early twenty-first should do much to shake up the “knowledge equilibrium.” Steps, however, should be taken to democratize the control of knowledge in order to prevent the creation of a new “oligopoly of knowledge” (perhaps creating a “democracy of knowledge” instead). Information professionals stand on the front line of this challenge.

## Library 2.0

One challenge to the post-Aristotelian library paradigm is the “Library 2.0” model of the early 2000s. Library 2.0 employs innovative information technology as well as an interactive communication model to empower users who might otherwise be silenced by exclusion or intimidated by the academic library.

Major advances in information technology in the late twentieth century altered how information is created, disseminated, and used. The Internet and World Wide Web began a revolution in communication, moving from the traditional “push” model of communication, in which the information provider controls the message that the consumer receives, to an interactive model in which the line between message producer and message consumer is blurred. Interactive “Web 2.0” technologies, including social networking sites, weblogs, wikis, online productivity applications, etc., have done much to “democratize” the production and transmission of information.

Although the new technology is invaluable in the twenty-first century model of online computing, the underlying shift in the communication process is even more revolutionary. In a forward thinking essay published in 2006 librarians Michael E. Casey and Laura C. Savastinuk borrowed the Web 2.0 model for the library, naming it “Library 2.0.”<sup>74</sup> The Library 2.0 model, while benefiting from technology, transcends it.

Library 2.0 involves “user-centered change. It is a model for library service that encourages constant and purposeful change;”<sup>75</sup> it “empowers library users through participatory, user-driven services.”<sup>76</sup> Through giving the library patron a role in determining the services offered by the library, library users *contribute* to the collection. Users might, for example, use the new information technology to add value to information by “tagging” it for better retrieval, identify areas in need improvement, offer evaluations of the information in the collection, and

otherwise *reinsert* the “views of the many” (i.e., the non-elites) into the academic library (becoming valid *endoxa*). The extension of traditional library resources to include such information sources as the World Wide Web offers alternative information resources and serves as a valuable repository for “non-expert” voices that might otherwise have been silenced by the post-Aristotelian library collection. Furthermore, the potential positive collaborations between expert and non-expert users in these “democratized” academic libraries will do nothing but enrich the scholarship that emerges from them.

New ways of thinking about the academic library—such as the Library 2.0 model—potentially move the library from the post-Aristotelian “push model,” one that collects, authorizes, and proffers expert *endoxa*, to an interactive “push-pull” collaborative model that encourages participation. But new approaches bring new challenges. Librarians face issues such as expanded potential sources of misinformation and disinformation that must be evaluated, and the education and empowerment a new of brand of library user.

## Implications

As repositories of “the memory of mankind,” academic libraries no doubt have aided in the creation of new knowledge. But they have also served to support the hegemony of male elite (they arguably are the memory of *mankind*) in a manner not too dissimilar to the pre-Alexandrian protolibraries’ maintenance of the “stream of tradition.” Although this indictment of the philosophical bases of western scholarship and academic libraries’ exclusion of alternate conceptions of what constitutes legitimate knowledge is harsh, it is warranted. Continuous research in this area is vitally important in order to institute positive change. Challenging the

dominant paradigm behind the academic library allows for the following: (1) identifying how the history of philosophy, science, and information institutions have molded cultures and instituted patterns of control in societies, (2) empowering those who have not traditionally been stakeholders in the dominant culture's process of knowledge creation, (3) educating and empowering users concerning the potential biases within and uses of "traditional" library collections and emerging sources of information, (4) educating information professionals concerning the potential biases within and uses of "traditional" library collections and emerging sources of information, and (5) empowering information professionals as agents of change.

Understanding the Aristotelian origins of the post-Aristotelian academic library is necessary to understand fully the theoretical underpinnings of how scholarship uses information. It is reckless for the modern information professional to ignore the philosophy behind the library. The information professional must maintain a close eye on their profession.

The modern academic library must be continuously reassessed in light of its theoretical basis to fully understand its roles—both positive and negative—in shaping and influencing modern democratic societies. This task allows for the development of alternative conceptions of the library that question, improve upon, or even subvert the dominant post-Aristotelian paradigm of the academic library outlined in this paper. The early twentieth century pragmatist philosopher of education John Dewey said, "while logicians have spent much time discussing how to apply their logic *to* the world, they have given almost no examination to their own position, as logicians, *within* the world which modern science has opened."<sup>77</sup> The librarians of Alexandria were essentially logicians, they *collected* and *organized* the dialectical *endoxa* used in philosophies and sciences based upon foundationalist Epistemologies. Their position was one of epistemological authority.

Library and information science professionals should examine, beginning with the Greeks, the ways in which traditional foundationalist logics have influenced the philosophical constitutions of academic libraries, and how they continue to influence them. At the very least, performing such analysis will give professionals insight into how library collections exclude others because of the institutionalization of a biased philosophical system. Acknowledging that the modern western academic library originated from an elite male dominated civilization and that it represents and potentially still supports a “Big Truth” science will allow librarians to identify problem areas and encourage change and diversity through incorporating alternative viewpoints.

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<sup>1</sup> William Manchester, *A World Lit Only By Fire: The Medieval Mind and the Renaissance; Portrait of an Age* (New York: Little, Brown and Company, 1993), 9.

<sup>2</sup> Edward Gibbon, *Decline and Fall of the Roman Empire*, vol. 1 (New York: Random House, 1932), 243.

<sup>3</sup> *Ibid.*, vol 3, 176.

<sup>4</sup> Biblioteca Alexandrina, “overview,” <http://www.bibalex.org/English/Overview/overview.htm>.

<sup>5</sup> Ernst Posner, *Archives in the Ancient World* (Cambridge, MA: Harvard University Press, 1972), 93-117.

<sup>6</sup> See Eric A. Havelock, *Origins of Western Literacy* (Toronto: Ontario Institute for Studies in Education, 1976), 45; and Harold A. Innis, *Empire and Communications* (Lanham, MD: Rowman & Littlefield, 2007), 17.

<sup>7</sup> Robert K. Logan, *The Alphabet Effect: A Media Ecology Understanding of the Making of Western Civilization* (Cresskill, NJ: Hampton Press, 2004), 4-5.

<sup>8</sup> A. Leo Oppenheim, “The Position of the Intellectual in Mesopotamian Society, *Daedalus* (Spring 1975): 38.

<sup>9</sup> Laura Arksey, “The Library of Assurbanipal, King of the World,” *Wilson Library Bulletin* (June 1977): 837.

<sup>10</sup> Giovanni Pettinato, *The Archives of Ebla: An Empire Inscribed in Clay* (Garden City, NY: Doubleday, 1981), 235-236.

<sup>11</sup> See A. Leo Oppenheim, “Assyriology—Why and How?” *Current Anthropology* 1, nos. 5-6 (1960), 412; D.T. Potts, “Before Alexandria: Libraries in the Ancient East,” in *The Library of Alexandria: Centre of Learning in the Ancient World*, ed. Roy Macleod (London: I.B. Taurus

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Publishers, 2000), 20; and Peter Briscoe and others “Ashurbanipal’s Enduring Archetype: Thoughts on the Library’s Role in the Future,” *College & Research Libraries* 47, no. 2 (March 1986): 121.

<sup>12</sup> Oppenheim, “Assyriology—Why and How?” 410.

<sup>13</sup> Victor Avidgor Hurowitz, “Literary Observation on ‘In Praise of the Scribal Arts,’” *Journal of the Ancient Near Eastern Society of Columbia University* 27 (2000): 49.

<sup>14</sup> Benjamin R. Foster, ed., *Before the Muses: An Anthology of Akkadian Literature*. 3<sup>rd</sup> ed. (Bethesda, MA: CDL Press, 2005), 1023.

<sup>15</sup> See Plato, *Phaedrus* 276d; 277e.

<sup>16</sup> Aristotle, *Metaphysica* 980a23.

<sup>17</sup> Aristotle, *Topica* 101a36.

<sup>18</sup> *Ibid.*, 101a37.

<sup>19</sup> Aristotle, *Physica* 184b15.

<sup>20</sup> Pliny the Elder, *Naturalis historia* 8.17.43-44.

<sup>21</sup> Apollonius Perga *Conics*, 1.2.2-4.28, in *Selections Illustrating the History of Greek Mathematics*, vol. 1, trans. Ivor Thomas (Cambridge, MA: Harvard University Press, 2000), 283.

<sup>22</sup> Strabo 2.1.5.

<sup>23</sup> Galen *On the Natural Faculties*, 1.13.35.

<sup>24</sup> Patti Lather, “Critical Inquiry in Qualitative Research: Feminist and Postcritical Ethnography,” in *Foundations for Research: Methods of Inquiry in Education and the Social Science*, eds. Kathleen deMarrais and Stephen D. Lapan (Mahwah, NJ: Lawrence Erlbaum Associates, 2004), 206.

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- <sup>25</sup> Ruth Hubbard, "Science, Facts, and Feminism," in *Feminism & Science*, ed. Nancy Tuana (Bloomington, IN: Indiana University Press, 1989), 119.
- <sup>26</sup> Lather, "Critical Inquiry," 206.
- <sup>27</sup> Joe L. Kincheloe and Peter McLaren, "Rethinking Critical Theory and Qualitative Research," in *The Sage Handbook of Qualitative Research*, 3<sup>rd</sup> ed. eds. Norman K. Denzin and Yvonna S. Lincoln (Thousand Oaks, CA: Sage Publications, 2005), 310.
- <sup>28</sup> Cynthia A. Freeland, "Nourishing Speculation: A Feminist Reading of Aristotelian Science," in *Engendering Origins: Critical Feminist Readings in Plato and Aristotle*, ed. Bat-Ami Bar On (New York: State University of New York Press, 1988), 158-160.
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- <sup>30</sup> James Davidson, *Courtesans and Fishcakes: The Consuming Passions of Classical Athens* (New York: Saint Martin's Press, 1998), 128.
- <sup>31</sup> Susan Moller Okin, "Philosopher Queens and Private Wives: Plato on Women and the Family," *Philosophy and Public Affairs* 6, no. 4 (Summer, 1977): 362.
- <sup>32</sup> Barbara J. Thayer-Bacon, *Relational "(e)pistemologies"* (New York: Peter Lang, 2003), 3, 16.
- <sup>33</sup> Genevieve Lloyd, "Reason, Science, and the Domination of Matter," in *Feminism and Science*, eds. Evelyn Fox Keller and Helen E. Longino (Oxford: Oxford University Press, 1996), 42.
- <sup>34</sup> Genevieve Lloyd, *The Man of Reason: 'Male' and 'Female' in Western Philosophy* (London: Routledge, 1984), xix.
- <sup>35</sup> Plato, *Respublica* 456a-b, trans. Jowett.

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- <sup>36</sup> Arlene Saxonhouse, "The Philosopher and the Female in the Political Thought of Plato," in *Feminist Interpretations of Plato*, ed. Nancy Tuana (University Park, PA: Pennsylvania State University Press, 1994), 72.
- <sup>37</sup> Jane Roland Martin, *Reclaiming a Conversation: the Ideal of the Educated Woman* (New Haven, CT: Yale University Press, 1985), 30-31.
- <sup>38</sup> Plato, *Respublica* 374.
- <sup>39</sup> Susan Moller Okin, *Women in Western Political Thought* (Princeton, NJ: Princeton University Press, 1979), 15.
- <sup>40</sup> Plato, *Respublica* 455c-d.
- <sup>41</sup> Plato, *Timaeus* 90e.
- <sup>42</sup> Okin, *Women in Western Political Thought*, 27.
- <sup>43</sup> Freeland, *Nourishing Speculation*, 157; see also Elizabeth Spelman, "Who's Who in the Polis?" in *Engendering Origins: Critical Feminist Readings in Plato and Aristotle*, ed. Bat-Ami Bar On (New York: State University of New York Press, 1993), 99-125.
- <sup>44</sup> Aristotle, *Politica* 1260a12.
- <sup>45</sup> *Ibid.*, 1255a27, trans. Jowett.
- <sup>46</sup> Aristotle, *De generatione et animalium* 728a18.
- <sup>47</sup> *Ibid.*, 767b6.
- <sup>48</sup> Okin, *Women in Western Political Thought*, 93.
- <sup>49</sup> Spelman, "Who's Who in the Polis?" 100.
- <sup>50</sup> William James, *A Pluralistic Universe* (Cambridge, MA: Harvard University Press, 1977), 96.
- <sup>51</sup> Andrea Nye, *Words of Power: A Feminist Reading of the History of Logic* (New York: Routledge, 1990), 26.

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<sup>52</sup> Ibid., 33.

<sup>53</sup> Ibid., 34.

<sup>54</sup> Ibid., 37.

<sup>55</sup> Ibid., 41.

<sup>56</sup> Ibid., 59.

<sup>57</sup> Ibid.

<sup>58</sup> Freeland, *Nourishing Speculation*, 158-159.

<sup>59</sup> Cynthia Freeland, "On Irigaray on Aristotle," in *Feminist Interpretations of Aristotle*, ed. Cynthia Freeland (University Park, PA: Pennsylvania State Press, 1993), 78.

<sup>60</sup> Thayer-Bacon, *Relational (e)pistemologies*, 70.

<sup>61</sup> Jonathan Barnes, "Aristotle and the Methods of Ethics," *Revue Trimestrielle* 133-134 (1980): 510.

<sup>62</sup> Freeland, *Nourishing Speculation*, 159.

<sup>63</sup> Nancy Tuana, *The Less Noble Sex: Scientific, Religious, and Philosophical Conceptions of Woman's Nature* (Bloomington, IN: Indiana University Press, 1993), 22.

<sup>64</sup> Barbara J. Thayer-Bacon, "Closing the Split between Practical and Theoretical Reasoning: Knowers and the Known," *Educational Philosophy Theory* 31, no. 3 (1999): 342.

<sup>65</sup> James, *Pluralistic Universe*, 99.

<sup>66</sup> Thomas Aquinas *Summa Theologica*, 1.99.2; see Tuana, *Less Noble Sex*, 21-22.

<sup>67</sup> Thomas Aquinas *Summa Theologica* 2.2.169.1.

<sup>68</sup> Paul Oskar Kristeller, "Renaissance Philosophies," in *A History of Philosophical Systems*, ed. Vergilius Ferm (New York: Books for Libraries Press, 1950), 227.

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<sup>69</sup> Lewis Hanke, *Aristotle and the American Indians: A Study in Race Prejudice in the Modern World* (Chicago: Henry Regnery Company, 1959), 56.

<sup>70</sup> *Ibid.*, 47.

<sup>71</sup> Richard J. Herrnstein and Charles Murray, *The Bell Curve: Intelligence and Class Structure in American Life* (New York: The Free Press, 1994), 509-511.

<sup>72</sup> Harold A. Innis, *The Bias of Communication* (Toronto: University of Toronto Press, 1951), 3.

<sup>73</sup> *Ibid.*, 3-4.

<sup>74</sup> Michael E. Casey and Laura C. Savastinuk, "Library 2.0: Service of the Next-Generation Library," *Library Journal* (September 1, 2006): 40.

<sup>75</sup> *Ibid.*

<sup>76</sup> Michael E. Casey and Laura C. Savistinuk, *Library 2.0: A Guide to Participatory Library Service* (Medford, NJ: Information Today, 2007), 5.

<sup>77</sup> John Dewey and Arthur F. Bentley, *Knowing and the Known* (Boston, MA: Beacon Press, 1949), 205.