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Revisiting Vico's Pedagogy of Invention: The Intellectual Entrepreneurship Pre-Graduate School Internship

E. Johanna Hartelius

Debates regarding higher education's relevance and responsiveness to societal exigencies have in the past three decades resulted in the development of programs with leitmotifs such as "service learning," "problem-based learning," and "civic engagement" (e.g., "Scholarship on Teaching and Learning," McNair Scholars, etc.). A recurring theme in these enterprises has been the emphasis on honing students' capacity for criticism. And while this faculty is valuable, it may be ultimately insufficient for students' active and productive problem-solving and concrete engagement. Heuristically employing Giambattista Vico's rhetorical pedagogy, this essay investigates a programmatic effort to respond to this overly critical orientation. I explicate a formal parallel between the criticism launched, on one hand, by the Intellectual Entrepreneurship Pre-Graduate School Internship at the University of Texas at Austin against public research universities, specifically the elimination or reduction of structural and instructional ambiguity and prioritizing of criticism, and, on the other hand, by Vico against Cartesian skepticism, specifically the critical teaching methods generated therein. I thus articulate a model of invention as taught through practice, and advocate a pedagogy based on this revitalized invention, demonstrating its utility in students' realities.

Keywords: Invention; Giambattista Vico; Pedagogy; Ambiguity; Internship

Public research universities are perennially the target of criticism from interested parties. Constituency confidence and fiscal resources are meager, and the expectations

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for states' return on investment staggeringly high. Historically, the covenant binding the public university and the state was the Morrill Act of 1862, which administered support for land-grant colleges through public funds in exchange for which the institutions would pursue scientific and classical studies, and "teach such branches of learning as are related to agriculture and the mechanical arts [and] promote the liberal and practical education of the industrial classes in the several pursuits and professions in life."¹ This dual agenda positioned universities to be responsive to the public in various ways, serving its needs and keeping abreast of emerging problems. Yet the question of higher education's relevance to societal exigencies remains today ever-pressing.

To parse this complex subject, we might posit that those who have attempted in the recent past to answer the above question have advanced arguments along two trajectories. First, some members of the academy have resisted vehemently the idea of non-specialized quality measurement of, and restructuring proposals for, a discipline, department, or program. Since the contemporary university is structured fundamentally to create academic "silos," isolating one specialist from another, this resistance has made continuous discussion and assessment of the university's responsiveness to the community difficult. Bluntly stated, this territorialism has obstructed the relationship between the university and the public.

Second, and perhaps with a more positive orientation, critics of this disciplinary isolationism have launched a range of programs with such leitmotifs as "active learning" and "civic engagement." For example, the federal McNair Scholars Program advises first-generation/low-income and underrepresented minority college students in directed research as a strategy to increase advanced academic degrees in these demographic segments. Another example of an emphasis on engaged pedagogy is the emergence in the 1990s of "Scholarship of Teaching and Learning" (SoTL), supported by the Carnegie Academy for the Scholarship of Teaching and Learning, the American Association for Higher Education, the Association of American Colleges and Universities, and the Council of Graduate Schools; faculty at hundreds of universities have developed research specifically about teaching and learning in their disciplines.² The pedagogy of these programs has typically been so-called "problem-based learning" or "service-learning," whereby students engage directly in the process of developing solutions to extant social, economic, and political problems. The ambition with these initiatives has been to equip students with the requisite skills to intervene upon graduation as social agents.

A recurring theme in the abovementioned efforts has been the emphasis on honing students' critical skills. The implicit assumption was that a critical mind is well positioned to respond to societal needs and solve problems. To be sure, this is a worthwhile objective; teaching students to critique the culture in which they are immersed, demystifying, for example, political ideologies and consumer motives, is important to preparing them for informed citizenship. The question that follows, however, and upon which this essay hinges, is, what comes next? Beyond criticism, what are students trained and poised to produce? If programs aimed at enhancing the relevance and responsiveness of the university to social and political needs focus

almost exclusively on developing students' capacity for criticism, is this sufficient to prepare them for problem-solving action?

In rhetoric and communication studies, these concerns echo powerfully. A survey of typical course offerings reveals a heavily critical orientation; classes such as "Theories of Persuasion" are structured around critical methods for decoding messages of compliance gaining in advertising, in political discourse, etc. Similarly, courses in "Political Communication" and the "Rhetoric of Popular Culture" teach students to interpret and analyze texts, particularly from mass media.³ Despite the evident value of these courses, discomfiting questions remind scholars and teachers of a deep-seated identity angst: *Does our field exaggerate the utility of criticism as a habit of mind? Does a heavy emphasis on criticism mean that we neglect to prepare students for creative and productive thinking?* These questions are part of an ongoing intra-disciplinary "stock taking." Moreover, they evoke the rhetorical discipline's long-standing commitment to engaged invention, notably formalized in Aristotle's foundational notion of discerning the means available to say and do what is required.

This essay investigates a programmatic effort that critiques and responds in part to the pervasive curricular emphasis on criticism, as explicated above, and in part, as I demonstrate in pages to come, to public universities' elimination or reduction of structural and curricular ambiguity. The *Intellectual Entrepreneurship* (IE) Pre-Graduate School Internship at the University of Texas at Austin is a credit-based learning incubator wherein undergraduate students work closely with a graduate student mentor and/or faculty supervisor, investigating a particular field of study. "Interns" explore aspects of graduate study that make it distinct from the undergraduate curriculum (e.g., conducting research, participating in seminars, serving as teaching and research assistants, etc.). Additionally, interns attend meetings to address concerns germane across disciplinary boundaries: graduate school admission and funding, the value of an advanced degree, professional career options, etc.⁴

To frame this program as both a challenge and an alternative to the typical modus operandi of a public university—an institution that comprises a large-scale industry, standardized and replicable courses, and a customer-service model rather than the generation of expertise—I employ the ideas of Giambattista Vico. I draw a formal parallel between the criticism launched, on one hand, by the IE Internship against public research universities, specifically the reduction of ambiguity and prioritizing of criticism, and, on the other, by Vico against Cartesian skepticism, specifically the critical teaching methods generated therein. Vico understands rhetoric as principally concerned with the education and fostering of leaders with good character and a strong commitment to the public good. His rhetorical theory thus represents a revival of Ciceronian ideals in which rhetoric is the framework for a good society. Vico writes,

Whosoever intends to devote his efforts, not to physics or mechanics, but to a political career, whether as a civil servant or as a member of the legal profession or of the judiciary, a political speaker or a pulpit orator, should not waste too much time, in his adolescence, on those subjects which are taught by abstract geometry. Let him, instead, cultivate his mind with an ingenious method; let him study

topics, and defend both sides of a controversy, be it on nature, man, or politics, in a freer and brighter style of expression. Let him not spurn reasons that wear a semblance of probability and verisimilitude. Let our efforts not be directed towards achieving superiority over the Ancients merely in the field of science, while they surpass us in wisdom; let us not be merely more exact and more true than the Ancients, while allowing them to be more eloquent than we are; let us equal the Ancients in the fields of wisdom and eloquence as we excel them in the domain of science.⁵

Indeed, as I demonstrate in the next section, Vico's rhetorical *oeuvre*, especially his analysis of the "study methods" of his time, speaks to the pressing concerns in higher education explicated above. The use of Vico in this essay is thus heuristic; tracing a kind of fundamental analogy allows me to interrogate certain routines of academe as potential shortcomings, rather than as self-evident necessities (e.g., the reliance on replicable, quantifiable and predictable calculations). Considering Vico's concerns about his era's dominant philosophy lets me identify precisely what distinguishes the IE Internship from standard curricula. It also enables me to make a contribution to the "scanty" bibliography on Vico as an educator.⁶

My motive for turning to Vico is that his theory of rhetoric prioritizes pedagogy. Moreover, as his pedagogy is premised on the positive outcomes of loosening the constraints on student creativity, it is particularly instructive in contemporary academic culture, which tends to tighten them. The IE Internship represents an approach to undergraduate education that depends on certain conditions for learning that have been deprioritized by public research universities because these conditions demand structural flexibility and a tolerance for uncertainty: creativity, reflection, individual initiative. In his teaching philosophy, Vico advises instructors not to discourage students' imagination, and cautions that Cartesian doubt enfeebles and debilitates young minds. Identifying the perils of a curriculum centered on criticism, he writes,

Philosophical criticism is the subject which we compel our youths to take up first. Now, such speculative criticism, the main purpose of which is to cleanse its fundamental truths not only of all falsity, but also of the mere suspicion of error, places upon the same plane of falsity not only false thinking, but also those secondary verities and ideas which are based on probability alone, and commands to us to clear our minds of them. Such an approach is distinctly harmful, since training in common sense is essential to the education of adolescents, so that that faculty should be developed as early as possible; else they break into odd or arrogant behavior when adulthood is reached.⁷

As I argue in this essay, the IE Internship provides a space for the training advocated by Vico, and supplements undergraduate coursework with an opportunity to invent.

If Vico's theory of rhetoric is predicated on pedagogy, then his pedagogy is predicated on invention. He writes,

Invention of arguments is by nature prior to the judgment of their validity, so that, in teaching, that invention should be given priority over philosophical criticism. In our days, we keep away from the art of inventing arguments, and think that this skill is of no use.⁸

For the purposes of this essay, and invoking traditional rhetorical scholars such as Karl Wallace, Richard McKeon, and Charles Kneupper, I define invention as creativity, discovery, and intellectual production. It is “the basic source of ideas and meanings that enter into discourse.”⁹ It is “creativity in every realm of human thought and action.”¹⁰ It is a technical art that prompts original discovery.¹¹ Moreover, invention, I argue, is the dimension of education that happens as a function of ambiguity. When faced with a situation that lacks predetermined constraints, students actively employ their own capacity to produce: ideas, arguments, texts, blueprints, formulae, artwork, solutions to problems, and tactics for engagement. When some of the rigid mechanics of undergraduate education are removed, students begin to learn. It is my contention, in other words, that a certain level of structural ambiguity in pedagogical design is imperative for invention.

My intention is to articulate a model of invention as taught through practice, and to advocate a pedagogy based on this revitalized invention, demonstrating its utility in, and relevance to, students, or indeed inventors, realities and exigencies. As a preliminary clarification, let me identify some parameters: A great deal of the literature on rhetorical invention is devoted to two major themes: the first chronicles invention's demise during the mid-nineteenth century, a development that is often attributed to the influence of British thinkers George Campbell, Hugh Blair, and Richard Whately. These authors, as James Berlin explains, “redefined the role of invention and relegated most of its functions to other disciplines.”¹² Second, many scholars of invention note the expanded definition of rhetoric in the last several decades as a function of the subject's relationship to inquiry; this development is typically associated with what the National Development Project's Committee on the Nature of Rhetorical Invention called “generative rhetoric.”¹³ Generative rhetoric represents invention that, rather than being limited to discovering persuasive appeals to convey insights garnered by other epistemologies, is itself a mode of knowing. The intersection between my project and the abovementioned efforts is the commitment to distinguishing between invention—defined as engaged creativity—and the mechanical or extra-substantive.

While the implications for invention of the aforementioned scholarship concern the scope of rhetoric itself, my particular context in this essay, again, is pedagogy and institutional invention. Louise Wetherbee Phelps offers a helpful clarification of two complementary interpretations of institutional invention: First, institutional invention as organizational management entails “forming and reforming [the organization's] ideals, governance structure, financial resources, curriculum.”¹⁴ Second, institutional invention is the creative dynamic in the scene of an institution (e.g., scholars and students inventing ideas on a campus). Invention in the latter sense serves

to enable continual innovation and adaptation in any domain by those populating or served by the institution: not just by faculty, but by students, staff, administrators, and institutional partners in the community; not just in research but in all possible academic roles and services.¹⁵

This essay addresses both meanings in keeping with their inevitable interdependence. Unlike Wetherbee Phelps, who focuses attention on an organization's leaders, my analysis spotlights the inventional agency of those lower in the hierarchy. It explicates the spaces for self-directed action that become available when the rigidity of organizational structures is decreased. My approach complements Wetherbee Phelps's by identifying the possibilities, when the two modes of institutional invention interact, for all members of an organization. Taking a dual approach, I examine the program as a unique context or set of circumstances in a university environment, *and* I engage in close textual criticism of the reflection essays written by past interns at the conclusion of their internship.

The textual criticism offered in this essay is contingent on the assumption that the IE interns' essays contain unique and valuable insights, explicating what Aristotle taught enthymematically, viz., the available means of speaking and acting in concrete and particular instances. The interns *name* the intersections between pedagogy, invention, and societal exigencies from a vantage point that is inaccessible to other participants in the academy. In their texts, we might thus retrieve important information regarding some of the most demanding questions confronting higher education. And while students do not produce the official rhetoric of the university, their rhetoric does reflect a situated "orientation" toward the former's outcomes.¹⁶ Their essays, whether expressing comfort with familiar course policies or discomfort with unfamiliar and ambiguous innovations (e.g., the Internship program), bespeak "a sense of relationships, developed by the contingencies of experience."¹⁷ Taken as a composite text, the essays potentially instruct us in detail about a significant "bundle of judgments as to how things were, how they are, and how they may be."¹⁸ A total of approximately 250 essays by interns enrolled in the program between the spring of 2006 and the spring of 2008 were examined, and four emergent themes identified.¹⁹ These themes represent resonances between the text and Vico's work, which is to say that the vocabulary is inspired by the texts themselves, and the decision of which of possible themes to include is informed by Vico. Before proceeding to the analysis, however, it is instructive to review briefly Vico's historical and philosophical context in order to appreciate the utility and relevance of his ideas to a critique of the modern public university.

Giambattista Vico and a Theory of Education

Giambattista Vico, after nine years of working in Vitolla as a tutor, arrived in the intellectual hub of Naples to discover that nearly every scholarly discipline—literature, poetry, logic, medicine, and law—had been fundamentally transformed. In his *Autobiography*, Vico writes,

With this learning and erudition Vico returned to Naples a stranger in his own land, and found the physics of Descartes at the height of its renown among the established men of letters. That of Aristotle . . . had now become a laughingstock. [Humanistic metaphysicians saw their contributions to history and eloquence] shut up in the cloisters; [and Plato was merely] quoted to parade an erudite memory.²⁰

The Cartesian program, particularly as articulated in Descartes' *Discourse on Method and Meditations*, introduced a new geometric foundation for scientific thought, encouraging the pursuit of methodological rigor, abstract principles, and verifiability.²¹ Scientific advancements inspired a pervasive epistemological skepticism, partly displacing other rhetorical, communal, and artistic ideals.²² In response, Vico, who prioritized "not the love of contemplation but a fresh, even passionate concern for the glories of civic life," assumed a refutational stance.²³ He describes his contemporaries contemptuously as living "like wild beasts in a deep solitude of spirit and will, scarcely any two being able to agree since each follows his own pleasure or caprice."²⁴ Unlike many of them, as Mikhail Lifshitz writes, Vico "personifies an earlier epoch, the Renaissance."²⁵ As a rhetorical educator in the Ciceronian tradition, Vico embraces the notion of multiple epistemologies, stating that "wisdom should change according to the object upon which it is brought to bear."²⁶

Convinced that "the whole is really the flower of wisdom," Vico objects to the subdivision of knowledge into disciplines.²⁷ He characterizes his task as a rhetorical educator thusly: "To gather up the fragments of learning and bring them to life through speech."²⁸ In the *Study Methods*, the definitive statement of his pedagogy, Vico proposes that an appreciation for communal wisdom should be central to any education. Whereas Descartes attempts to "dismiss from the mind all inherited ideas, which depend on birthplace and background, and start again from scratch with ideas open to people of all cultures, religions, and traditions," Vico argues that "civilization is built upon a *sensus communis* that is essentially oral, communal, and practical."²⁹ Contra Descartes, he instructs students to learn the topics common to community.

Vico expresses serious concern that a Cartesian mindset might wreak havoc on students' most important philosophical ability: *ingenium*. This creative and energizing faculty, Vico suggests, if taught too early, will "dry up every fount of convincing expression, of copious, penetrating, embellished, lucid, developed, psychologically effective, and impassionate utterance."³⁰ Thus while Descartes stresses "the need to direct ingenium by rules or to restrain ingenium through training in mathematics," forgoing the notion's "distinctively creative or inventive character," Vico claims instead that ingenium requires an unencumbered mental ability that "cuts through the artificial rational divisions which separate topics."³¹ He insists that a philosophy and pedagogy based on strict rationalism

moves forward by a constant and gradual series of small, closely concatenated steps. Consequently, it is apt to smother the student's specifically philosophic faculty, i.e., his capacity to perceive the analogies existing between matters lying far apart and, apparently, most dissimilar. It is this capacity which constitutes the source and principle of all ingenious, acute, and brilliant forms of expression.³²

Beyond strength in inductive reasoning, Vico explains, an ingenious mind possesses a "dialogic character" that continually recalls disparate memories and experiences, drawing out penetrating and creative comparisons.³³ Thus as long as ingenium is controlled and forced into submission to the roles of logic, and any ambiguous

feature of a given situation or task is removed or clarified, genuine innovation eludes students.

Vico relates ingenium explicitly to young students, who widely possess it “if only we will recognize it and train them accordingly.”³⁴ He proposes that this cross-disciplinary imagination “must not be ‘gotten over,’” but nurtured and stimulated to supplement the critical and rational skills of the adult mind.³⁵ Although it is often the case that young people are prone to inaccuracy and randomness, the same might be said for a mental faculty literally founded upon establishing relationships via unstructured thought. Before scientific rigor can be applied, students must summon insights worthy of deeper exploration. Ingenium, Vico explains, cannot operate passively as when students listen for answers; rather, it functions actively as they grope for insight on their own. It represents a form of knowing that emerges as students struggle against uncertainty; it “must always assert itself in the face of new situations.”³⁶ As such, students must be engaged in active problem-solving, seeking ways to overcome a lack of knowledge.

Vico’s critique of the separation of types of knowledge, the suppression of ambiguity and uncertainty, a passive role for learners, and the dominance of method resonates in contemporary higher education. Research universities emphasize functioning within a narrowly demarcated region of thought while retaining skepticism toward everything outside its boundaries. In the next section, I demonstrate that, as Vico challenges the assumptions of Cartesianism via ingenuity, so does the *Intellectual Entrepreneurship* Internship prioritize constructive, transdisciplinary invention over the standard curricular routines to which contemporary students are accustomed.

IE Internship and Principles of Invention

The *Intellectual Entrepreneurship* Pre-Graduate School Internship is an individually designed, credit-based program. For one semester, an undergraduate intern works one-to-one with a graduate student mentor and/or a faculty supervisor. Some interns become de facto research or laboratory assistants; others devote a majority of their time to graduate school applications; still others prioritize the interpersonal dimension of the mentoring relationship. What is significant about the model is its reliance on student initiative; before enrolling, each student in consultation with their graduate mentor drafts an individual curriculum, detailing the projects and assignments that will comprise their semester. Thus, every internship is slightly different, and reflects the objectives of each intern, as well as the intern’s and mentor’s shared academic and professional interests.³⁷ The conversations between interns and mentors prior to the Internship semester are significant because they represent the first steps of a pedagogy of invention. It is my contention that, when students are asked first, to identify their academic, professional, and personal commitments, and, second, to formalize an explicit strategy for pursuing them, invention begins.

Dialectics of Structure and Freedom

Invention thrives on a dialectic between structured heuristics on one hand, and, on the other, “free” modes of discovery. That is, while genuine invention cannot be reduced to a mechanical routine, it is likewise ineffective as thoroughly unstructured play. Vico addresses this tension in a discussion of the virtues of creativity as compared to regurgitation when it comes to Homeric poetry. He indirectly advises instructors to impose discipline based on poetic form, but not therein to make pupils into “servile imitators.”³⁸ In the exercises that Vico prescribes, certain dramatic characters remain stable, but are put into various plots and assigned new speeches by each student; this provides sufficient structural stability to guide and reassure would-be poets, while allowing for experimentation. To Vico, conventions should be instructive, but never demand absolute adherence:

Those who left us masterpieces of the arts, had before their eyes no model to imitate except the best that is in nature. But those who take as models, in order to imitate them, the highest masterpieces of art—let us say, the best paintings—are usually unable to create better ones.³⁹

Vico challenges a teaching method that is heavily reliant on imitation and rote memorization.

Topoi, or commonplaces, are central to Vico's pedagogy, which bespeaks his conviction that invention happens in the interstices of set form and free creativity. Topics represent places in the mind where the form and material of arguments are available to a discerning rhetor. Explicating the connection between topics and instruction, Vico claims,

Providence gave good guidance to human affairs when it aroused human minds first to topics then to criticism, for acquaintance with things must come before judgment of them. Topics has the function of making minds inventive, as criticism has that of making them exact. And in those first times all things necessary to human life had to be invented, and invention is the property of genius.⁴⁰

In Vico's pedagogy, topics do not provide simple templates from which old ideas can be regurgitated, but an organized schema of experiences that aid students' ingenuity. Topics, according to Vico, are the core of a rhetorical epistemology, the “process of verbal and conceptual ordering through which humane knowledge comes into being.”⁴¹ Topics provide “architectonic patterns of thought and modes of verbal apprehension” that not only facilitate but organize creativity.⁴² They are inventive resources.

A considerable portion of the scholarly literature on teaching invention via topics focuses on taxonomical, highly structured techniques for the classroom.⁴³ I refer here to the use of inventories of topics thought to stimulate and guide students' production of discourse. Such matrices of the common topics may provide for teachers “simplicity [. . .], convenience, coherence, and limitations”⁴⁴; they are “easily itemized, circumscribed, and transmitted.”⁴⁵ To the extent that they are isolated from substance, however, they may become self-contained academic exercises that, as

Walter Jost notes, “threaten to make elementary (to ‘juvenilize’) [. . .] philosophy and theory.”⁴⁶ Michael Leff’s explication of the topics’ potential role in a rhetorical curriculum emphasizes the same point: “The goal is not mechanistic application of the theoretical apparatus to particular cases, but the cultivation of an ability to encounter cases as circumstances demand.”⁴⁷ Employed as pieces of a “mechanistic apparatus,” albeit with the intent of stimulating invention, the topics become oppressively systematic. As Vico might bemoan, they hamper students’ capacity to create unprecedented “masterpieces of the arts.” The topics may be then reduced to aiding the mastery of convention.⁴⁸

More productively, and in keeping with Vico’s philosophy, topics may be conceived as the mental potentiality and actuality of inventiveness situated in cultural particularity. This inventive “power”⁴⁹ enables a person to discern the common expectation and preexisting conventions within a system, manipulate them carefully, and generate cultural change. David Fleming underscore’s Vico’s endoxa-centered approach to the topics, training students to locate propositions that might appeal to the audience’s shared beliefs.⁵⁰ The pre-registration process required of the interns provides an instructive example here. Before enrolling, as mentioned above, students design an individual curriculum in collaboration with their mentors. This results in a “contract.” The document itself, which students may retrieve online, is the same for all interns, thus illustrating the structured element in the structure–freedom dialectic of invention. Further, the contract contains certain predictable forms: timeframe, identification of parties involved, shared expectations, assignment of role-related power, measurements of evaluation, etc. These are indeed familiar topics endemic to higher education; they represent its “habits of thought, value hierarchies, forms of knowledge, and cultural conventions.”⁵¹ Completing the contract is a process of adherence to form, but also ultimately lets the drafters challenge the culture by which the form is sustained. Systemic change thus demands knowledge of, compliance with, and renegotiation of commonplaces.⁵²

In this essay, I do not explicate specific methods for providing students directly with invention *techniques*, since the pedagogy that I seek to analyze is more concerned with invention as students’ *response* to a given environment. The assumption is that “ideas and arguments spring from situations to which communicators must respond, or are invited to respond, with appropriate visual signs and verbalizations.”⁵³ The Internship represents such a situation, or climate of exigency. This approach to teaching invention is less precise, and therefore more variable than more formally strict techniques; it is a pedagogy, not in the sense of imparting a method of invention but in the sense of creating an environment in which invention is possible. Invention is what interns themselves discover in situated contexts of concrete need (see below), not what they are trained to execute. The objective of the Internship is to place students in a context in which their self-constructed modes of invention differ from the tradition in which they are currently operating.

Beyond the contract, structural boundaries in the Internship are in many cases the result of specific research methodologies to which students are introduced. Interns realize the formal constraints on scholarly invention when they encounter

them as part of epistemological practices. Describing her mentor's imparting of such practices, one intern explains,

She let me choose the variables that I had believed would give us more information about whether or not it supports my hypothesis or not. In order to do so, she ran the variables through comprehensive statistical data analyses programs such as SPSS and SAS. Upon running the data, I was able to see what were the actual data in the form of percentages and frequencies. I do not think that I am allowed to reveal the results of the mini-data analyses, but it was overall, very interesting to find out a few of the results that were surprising as well.

This student describes how a research apprenticeship exposes her to the process of structured invention. She suggests that this format generates a certain predictability of practice; it identifies and maps the norms of "doing research." Invention takes place within relatively rigid methodological habits.

By contrast, reflecting on the program's integration of ambiguity, many of the interns write in their final essays about managing autonomy. One student notes,

[The program] allows you the freedom to focus on almost anything you want to explore, both academically and in pursuing future career options. I think it is this lack of restriction and independent study which makes the Internship program especially fulfilling and rewarding.

Another student similarly states, "I loved the way that it was structured in the sense that it wasn't very structured at all, but rather focused more on letting you create your own experiences and chances to learn and explore." The interns explicitly associate an independent learning environment with productive intellectual development:

The Intellectual Entrepreneurship program that I was a part of this semester made me realize the importance of taking charge of what you learn. The freedom and flexibility that this course nourishes is very valuable. Letting the student take his learning experience into his own hands gives the student a chance to see what he really wants to learn about.

These excerpts also resonate with the theme of synthetic thinking addressed later in the essay; reflecting on the Internship experience overall, students stress the impact of "free" invention.

Abandoning the familiar procedures of college coursework, at which many of the interns excel, for more self-directed invention sometimes entails initial anxiety. One intern notes,

At first, when I met with my mentor to figure out what I was going to do during the semester, she told me that I could take this Internship anywhere I wanted to. That definitely confused me, and I felt lost because I'm so used to being told exactly what to do for each class, definitely came as a shocker. When I sat down and thought about what I wanted to do, I had a blank piece of paper staring at me, it had been so long since I had thought about what I wanted to do instead of being told what to do every step of the way. It took me a while to figure out exactly what I wanted to get out of this Internship.

Ambiguity, as this student describes, albeit a source of intimidation, is the catalyst for invention. The specter of risk—taking interns out of their “comfort zone”—leads them ultimately to grasp for new insights. They find themselves in a “region of productive uncertainty.”⁵⁴ The insecurity, even fear, of not having pre-established instructions leads students to posit new relationships and ideas with “robust sense and vigorous imagination.”⁵⁵ As Verene claims, “Vico’s view of fear [. . .] implies that fear is the condition, the impetus for any first thought.”⁵⁶ From this perspective, invention is the active and innovative engagement that interns undertake as “unwillingness to reduce the mind’s uncertainty by embracing what is familiar to the mind.”⁵⁷ Productivity becomes a function of temporary anxiety.

Importantly, a close reading of the interns’ essays reveals that, in response to the context of self-directed exploration, students impose upon themselves what might best be understood as a method. They construct systematic and strategic plans for executing tasks; they establish order so as to achieve clearly defined ends. For example, a student who devoted his internship to producing a guitar effect pedal writes,

To start with the design, I had to, of course, choose a desired effect for it to become an actual product. Studying the market and scouring the Internet, I found that there was a huge shortage of “Tremolo” effect pedals, and that there was much room for innovation. I then started researching schematics of these pedals on the Internet, in order to understand the circuit theory that makes it work. . . . With the general concepts of circuit theory in place, I moved on to refining the other “basics” of the circuit. . . . From here, I had a theoretically working circuit. Next was the prototyping stage. . . . In my mind, I got where I wanted to go. I designed a circuit from the ground up, built a prototype, and had it ready to go into production. However, it’s been a test for me, and there have been a lot hitches in getting to the end of the road. I’d prefer to go back and do some thorough testing through oscilloscopes and test software, and work out the bugs myself using theory, and not just guessing and checking with common fixes for these circuits.

This student responds to the Internship’s ambiguity by implementing his own inventional strategy. He copes with uncertainty and self-determination by devising a method for the purpose of achieving a desired objective. Indeed, he adheres to Vico’s instruction to begin his studies with “matters of which they treat,” grounding his method in the subject matter at hand.⁵⁸

Potentialities and Contextual “Situatedness”

Invention is contextually situated responding to an urgency or crisis. As Jay Satterfield and Frederick Antczak note, it “is the creation of new thought that is workable.”⁵⁹ “A pragmatic inventional theory rests on the notion that politically effective knowledge must be created in an historically contingent public space. The pragmatic theory of invention emerges from this basic attitude toward the nature of truth and knowledge.”⁶⁰ Invention is most effective as the discovery and creation of knowledge when it happens as a function of a demanding problem. The colloquialism “Necessity is the mother of invention” applies here. For many IE interns, the

realization that their academic curriculum—what they refer to primarily as esoteric lessons beginning and ending in the classroom—equips them to intervene in concrete ways is powerful. A geography major describes the experience of realizing and concretizing her academic expertise:

I have discovered that there is much more to research than mixing chemicals in a lab. This semester I have been working with my mentor and a professor advisor on planning a summer research project in Pakistan on the Indus River. Planning alone is much more extensive than I anticipated when I decided to do a research project. . . . As a direct result of all of the planning, I feel fully prepared to spend two months of this summer in Pakistan conducting interviews on the local needs for the Indus River (for agriculture, industry, electricity generation, and domestic use), the current water management and allocation structure and strategies of the government of Pakistan, and the social and ecological impacts of said strategies.

Most of the interns characterize the recognition of their own agency through invention as critical. They are energized by the experience of applying what they know academically to a challenging situation, and, conversely, to learn important lessons from that application.

The emphasis on lived experience resonates thoroughly with Vico's understanding of "common sense" as a primary force of invention.⁶¹ Invention is linked to past experiences, specifically as those linger in memory. Vico proposes that, in this sense, imagination "is nothing but the springing up again of reminiscences, and ingenuity or invention nothing but the working over of what is remembered."⁶² Isaiah Berlin describes how Vico

uncovered a sense of knowing which is basic to all humane studies: the sense in which I know what it is to be poor, to fight for a cause, to belong to a nation, to join or abandon a church or a party, to feel nostalgia, terror, the omnipresence of a god, to understand a gesture, a work of art, a joke, a man's character, that one is transformed or lying to oneself. How does one know these things? In the first place, no doubt, by personal experience; in the second place because the experience of others is sufficiently woven into one's own to be seized quasi-directly, as part of constant intimate communication; and in the third place by the working (sometimes by a conscious effort) of the imagination.⁶³

Vico's students' academic capacity is enhanced by their imaginations and embodiment.

An intern whose mentor was a graduate student in social work, collaborated with the Refugee Services of Texas. Observing connections between her on-campus and off campus work, she writes about the process of discovering solutions to pressing needs:

My duties as an intern were to shadow the life of my mentor which included a trip to the Austin-Bergstrom airport to pick up an Iranian family, participating in ESL with Burmese clients, assisting the office on preparing documents for client employment, and interacting with the employees in the office. . . . While at an airport pickup of an Iranian family I witnessed my mentor and a Persian-speaking volunteer facilitating the family's "social functioning" and "appreciation of human

diversity” by helping them resettle into their new apartment, and strategizing ways for them to find a natural water source to perform a religious ritual.

The student articulates what she understands as real instances of concepts from her coursework, such as social functioning. The airport scene serves as an illustration of the significance of her academic expertise. For this intern, invention takes place in the context of necessity, where workable solutions are imperative.⁶⁴

Illustrating the notion that invention is fundamentally contextual, the interns’ personal circumstances frequently become part of the Internship experience. Put another way, the insights that the students bring into the program as a function of their background are considered integral to the process of invention. Lived experiences that are constitutive of the interns’ identities shape each intern’s projects and objectives in particular and significant ways:

Furthermore the research to me was far beyond just a how-to guide to constructing research, it was something very intimate and emotional. The research focused on Latinas and the dilemmas they face as Mexican American woman growing up in a constant struggle of identity, cultural clashes, and psychological borders. . . . Though my culture does value education, they also give much importance to family. I felt very conflicted between pursuing a doctoral degree, and establishing a family. . . . Through the attainment of my Ph.D., I hope to coordinate pre-service teacher programs to help train tomorrow’s teachers. I know that the more I become educated, the better equipped I will be to train teachers to be more progressive and be aware of the fallacies of the education system, as well as the socio-cultural factors that affect the cognitive development of the students, which go hand in hand with their success and self-perception.

The interns’ childhood experiences inform in profound ways the kinds of invention toward which their internship is targeted; their perception of social problems that demand solutions is coupled with a strong sense of personal responsibility. Many interns explicitly address the difficulty of making the important but complicated connection between academe and the experiences associated with their family of origin. Complicated cultural demands and traditions constitute the context in which many students pursue a college degree. Moreover, these conditions provide immediate incentive for invention as part of the Internship program.

Unlike in typical academic settings, the IE interns are not required or asked to bracket implicit and lived knowledge. Rather, the validation of inferential epistemology serves a pedagogical function. In the context of their “real lives,” interns formulate a strategy for engagement. Thus invention becomes an “inquiry into the concrete”⁶⁵ wherein interns are positioned to draw on “everydayness.”⁶⁶ Their capacity and incentive to invent are the result of interns’ experience with poverty, loyalty, and commitment, just as Vico describes. Insofar as these conditions, and the working of interns’ imagination, are the sine qua non of their inventive productivity in the program, the Internship directly implements Vico’s pedagogical vision. His classical model, what Thomas Farrell characterizes as the “cauldron of live possibilities,” begins with uncertainty and thrives during the formulation of a practical method.⁶⁷

Synthetic Thinking

Vico claims that the “inferential capacity of the creative imagination” is “central to all human invention.”⁶⁸ The ability to synthesize and analyze, to reason from basic assumptions toward advanced conclusions, enables productivity. This is the process of “abstraction, representation, transformation, application, and generalization.”⁶⁹ Indeed, Vico’s own discovery of universal patterns among nations demonstrates his conviction that synthetic thinking is integral to pedagogy.⁷⁰ He catalogues similarities among different domains, systematically guiding his reasoning toward conclusive principles. In Vico’s writings, invention entails an active building of complexity out of simple components for the purposes of evaluation, decision-making, and problem-solving.

The IE Internship is a platform for students to engage in synthetic thinking. Interns, as Vico would have it, actively and systematically build complex insights out of the simpler components of their academic and real-life experiences. Put simply, they are assigned to consider strategically the “big picture.” In their final essays, interns analyze the role and significance of the program:

The idea of having a program like this is a great innovation in the tools students have to make the right choices in such a pivotal time in a person’s life. A career is something that requires a great deal of consideration, preparation, and research. In order to fully understand what if is you want to do after your undergrad is complete, a first hand look is the absolute best way to know as much as you can about Grad school short of a recent graduate of law school thinking in retrospect. Without some sort of Internship like this students have to rely on the information from recruiters, websites, rumors, and if they are lucky . . . , some surface scraping advice from someone who knows.

Synthetic thinking as an aspect of invention means recognizing and explicating how experiences cluster in associative ways.⁷¹ Insofar as associations are topical, this third theme of synthetic thinking engages the earlier discussion of topics. William Nelson describes *topoi* as “superordinates of argument clusters”⁷²; Michael Leff argues similarly that “the object of invention is to bridge ideas belonging to the same essential class.”⁷³ In the context of the Internship, students discover these “idea to idea relationships”—how academic coursework and other interests that may appear unrelated converge as meaningful clusters.⁷⁴ For example, some make connections with professionals in the off-campus community; graduate student mentors and faculty supervisors typically facilitate introductory networking opportunities wherein interns become acquainted with working specialists in their areas of interest.

Synthetic thinking furthermore entails the interrogation of “topics of dissociation.” Topics of dissociation are conceptual pairs that exist as master arguments within a cultural philosophy: means and ends, individual and group, appearance and reality, etc.⁷⁵ They are held together by the tension of their internal difference, and are fodder for argument and invention. A part of the Internship design is putting students in a position where they question conventional academic dissociative

pairs—theory and practice, professional and personal, one discipline and another, and so on—instead of taking them for granted. One intern writes,

As a current double major in history and anthropology, I did not know how to go about picking which area to focus on in graduate school. As it turns out I actually do not have to pick between the two. . . . While I have kept my intention to search for museum studies programs I have also been able to combine my majors instead of picking between the two and have also expanded my research and future graduate school interests.

Interdisciplinary studies and research projects are often beyond what undergraduate students are enabled systemically to imagine. Thus, the synthetic thinking that defies academic themes of dissociation furthermore constructs such projects as significant opportunities.

In Vico's pedagogy, making connections between "seemingly diverse academic and civil topics" is critical.⁷⁶ He describes interdisciplinarity as the reuniting of epistemologies and practices that were "sundered apart":

Those responsible for this separation can be compared to a tyrannical ruler who, having seized mastery of a great, populous, and opulent city, should, in order to secure his own safety, destroy the city and scatter its inhabitants into a number of widely strewn villages. As a consequence, it is impossible for the townsmen to feel inspired, through the bold pride awakened by the sight of the splendor and wealth of their city and by the awareness of their number, to band together and conspire against him, lending one another help in their fight against the common oppressor.⁷⁷

Students' sense of what is possible emerges, according to Vico, when they "imagine new arrangements" among previous experiences and insights.⁷⁸ As reflected in the description of the united and emboldened townspeople, exploring interdisciplinary overlap is central to the social aspect of invention.

Social

Invention is an intersubjective process. It is grounded in a "social imaginary," where commonplaces, or *topoi*, constitute a cultural repository.⁷⁹ Echoing Vico's communal theory of invention, Karen Burke LeFevre provides an alternative to the familiar notion of the creative but isolated author:

Writers often invent by involving other people: as editors and evaluators whose comments aid further invention; as 'resonators' who nourish and sustain the inventor as well as the invention; as collaborators who interact to create new ideas; and as opponents or devil's advocates who provide challenges and alternate perspectives to work against.⁸⁰

For the interns, the importance of the social aspect of discovery and invention cannot be overstated. In the section on synthetic thinking, I noted that many of the interns make connections with off-campus professionals with whom they share interests and passions. In addition, nearly all the interns emphasize in their final essays the

significance of their graduate student mentors. They describe the role of their mentors as central to the Internship experience:

As I talked with, and really got to know my mentor, I found out what all she went through in preparing to go to grad school. She was nervous and scared like I was. Being able to know those details and see how much success she's had in her graduate school program was a huge encouragement! I had never had the chance to talk about my fears and questions with someone who had just gone through the same thing! That simple aspect of this Internship was enough in and of itself to increase my understanding of what a graduate student goes through.

Most of the interns attest to the value of working closely with someone with whom they can identify; the interpersonal connection that mentoring relationships enable is critical to the demystification of graduate education. Invention is not, as some modern conceptualizations would have it, an autonomous process by which a single mind produces artifacts. Rather, it is a collective engagement. It uses as resources the community's imaginations and habits.

Further, many of the interns acknowledge the extent to which their experience of the program was shaped by other participants. Indeed, their accounts of a community of interns powerfully identify the characteristics of an environment that is conducive to invention:

Reading other people's personal statements and hearing about their concerns made it easier for me to stay grounded and set my agenda. . . . The other interns in the group confirmed my suspicion that many students are intimidated by graduate school, underestimate the benefits of completing a Master's degree, and have very vague ideas about how to go about preparing for continuing education. I had students proofread my papers and share with me things that they had discovered, and I truly feel that my experience was improved as a result of their affiliation.

The interns consistently affirm that the program's emphasis on student invention is concurrent with its facilitation of a student community. As Vico would have it, by sharing and collectively deconstructing their experiences throughout the semester, interns gradually achieve a sense of purpose and efficacy. Via productive imagination, they come to terms with the program's inherent dialectic of freedom and accountability, adjusting together to its structure and expectations.

To summarize, I examined four themes emerging in the IE interns' final essays, coupling them with theoretical insights from the major writings of Giambattista Vico on creativity and intellectual facility, and engagement. Thus deploying Vico's rhetorical epistemology and pedagogy allows me to explicate a series of postulates constituting a retheorized model of rhetorical invention: It thrives as a dialectic between structured and free modes of productivity; is contextually situated in concrete exigencies; invention is a process of synthetic thinking—of discovering clusters of meaning and interrogating topics of dissociation; finally, it is social and intersubjective. In the conclusion, I indicate implications of the IE Internship as a context designed specifically to permit ambiguity and facilitate rhetorical invention.

Conclusion

The field of rhetoric and communication faces a potentially productive moment of self-reckoning, the roots of which can be traced to the systemic challenges of public research universities. Critics claim that universities fall short of their mission, viz., preparing and equipping graduates intellectually as well as professionally. Insofar as this criticism is merited, higher education loses its relevance to society. Within our discipline, the matter of universities' relevance and responsiveness turns attention to a curriculum that is predominantly geared toward criticism; the principal lesson students of rhetoric and communication take away from their studies is how to assume a critical stance. They acquire techniques for analyzing and deconstructing communication in public, political, interpersonal, and organizational contexts. They learn to critique messages. Even when invention and creativity is a stated goal, the enterprise is circumscribed within a controlled space whose parameters become constricting. Even when students are instructed to produce, the method and outcome are precisely dictated.

In the ambition to challenge this model, and to posit invention at the center of a rhetorical pedagogy, and a rhetorical pedagogy at the center of higher education, my project invokes certain disciplinary traditions. Notably, Hoyt Hopewell Hudson and Everett Lee Hunt with their lives' work advocated a liberal humanist method premised on teaching invention, establishing this method as foundational for the then-new field of "speech." As Hudson enthusiastically notes, however, the field as a practice and mode of inquiry was hardly new; rather, Hudson insists, its members needed to reacquaint themselves with tradition.⁸¹ When rhetoricians lose track of the classical heritage and its pedagogical emphasis, and rhetoric is understood primarily as a critical faculty—"an analysis of some speech already made" or "the study of embellishment"—students and teachers abandon their productive capacities.⁸² In a similar and concomitant effort to assign rhetoric a leading role in higher education, Everett Lee Hunt explicates the virtues of generalism, specifically its inventive potential for the purposes of public speaking instruction.⁸³ Addressing more recent movements in the discipline, and picking up Hudson's and Hunt's project, Thomas Sloane urges a humanist revival of rhetoric and rhetorical education. Sloane laments, as I do, the fragmentation of the modern American university, and claims that twentieth-century rhetoricians at their students' peril neglect "*inventio*."⁸⁴ These scholars represent nobly a disciplinary past of which contemporary rhetoricians could stand to be reminded: rhetoric serves an imperative function in the academy, particularly in the education of *productive* as well as critical citizens. Moreover, the rhetorical tradition supplies abundant resources to do this well. On this point, I hope that my essay resounds their argument.

At the beginning of the twenty-first century, assessing the merit of a heavily critical orientation, students and faculty of rhetoric and communication question what the discipline and the degrees it awards offer. The concern is that if nearly all courses in the catalogue train students to critique, they are ill-equipped to invent. Or, to put it

more carefully, it is not because they are trained to be critical that they are ill-equipped to invent. They are ill-equipped to invent because they receive little instruction and even fewer opportunities for creative and productive innovation. Because students have an underdeveloped sense of the ambiguity of language, in Burkean terms, they are poised to produce and deliver only those things that the hierarchy in which they function predicates. They are able to invent solutions to exigencies that are predictable, which is to say that they can paint by numbers.

In this essay, I offer a revitalized model of rhetorical invention taught through practice and grounded quite concretely in the experiences of social, political, and economic reality. I explicate a parallel between, on one hand, the IE Internship as a programmatic challenge to the routines of higher education, and, on the other, Giambattista Vico's criticism of the Cartesian philosophy that dominated his era. This parallel is a function of Vico's humanistic epistemology and civic orientation; his rhetorical theory privileges pedagogy, and his pedagogy posits as principal students' capacity for, and exercise in, invention. Vico insisted that instructors' overreliance on criticism and scientific doubt would weaken the minds and spirits of young pupils to the detriment of their productive and imaginative faculties; he advocated the teaching of topical invention. By comparison, the Internship fulfills the largely underserved purpose of facilitating invention, specifically by assigning students the task of taking individual initiative, establishing connections between educational choices and personal as well as professional goals, and investigating available opportunities for engagement.

Moreover, as a learning incubator rather than a teaching technique, the Internship incorporates ambiguity strategically. It is a climate in which the lack of definitive answers casts students as the agents of education. When they begin their internship, the absence of specific directives functions as an exigency demanding a fitting response. Students *invent* such a response by conceptualizing what they want to accomplish. Interns draw from lived experiences to identify inherent possibilities and intervene in concrete and pragmatic ways. Interns examine and extend connections not only between their lives and college careers, but importantly also within their campus environment. Interns collaborate with graduate students, faculty members, and each other to navigate the tensions between the freedom of the Internship and the formality of the research methods that they learn therein. Indeed, in this process of coping with structural ambiguity, they develop a method of their own.

Social, political, and economic crises on local as well as international terrains demand that we train students in methods of invention. As Kneupper and Anderson noted three decades ago, "It is in improving the rigor of student thought through providing approaches to rhetorical invention that the intellectual merit and vitality of the discipline resides."⁸⁵ This process need not be constrained by research universities' standard practices. Indeed, abandoning these routines and allowing for unpredictability may generate the genuine "teachable moment."

Notes

- [1] Library of Congress. "Morrill Act: Primary Documents of American History." Virtual Programs and Services, Library of Congress; <http://www.loc.gov/rr/program/bib/ourdocs/Morrill.html>.
- [2] Maxine P. Atkinson, "The Scholarship of Teaching and Learning: Reconceptualizing Scholarship and Transforming the Academy," *Social Forces* 79 (2001): 1217–30; Ernest Boyer, *Scholarship Reconsidered: Priorities of the Professoriate* (San Francisco: Jossey-Bass, 1997), 1990.
- [3] In 2010 a summer conference at the University of Puget Sound was entirely devoted to methods for teaching rhetorical *criticism*. The conference attracted both senior and junior rhetoricians, and generated rich conversations about rhetorical pedagogy, yet precious little time was spent on what might be called a "student turn to the productive."
- [4] The Internship is part of *Intellectual Entrepreneurship*, an inter-collegial consortium of the Colleges of Communication, Liberal Arts, Fine Arts, Natural Sciences, Law, Education, Pharmacy, and the Schools of Information, Engineering, Business, Public Affairs, and Social Work, and in the portfolio of the Vice President for Diversity and Community Engagement.
- [5] Giambattista Vico, *On the Study Methods of Our Time*, trans. Elio Gianturco (Ithaca, NY: Cornell University Press, 1990), 41.
- [6] Maria Goretti, "Vico's Pedagogic Thought and That of Today," in *Giambattista Vico: An International Symposium*, ed. Giorgio Tagliacozzo and Hayden V. White (Baltimore, MD: The Johns Hopkins Press, 1969), 555, n. 7.
- [7] Vico, *Study Methods*, 13. See also Vincent Bevilacqua, "Vico, Rhetorical Humanism, and the Study Methods of *Our Time*," *Quarterly Journal of Speech* 58 (1972): 75.
- [8] Vico, *Study Methods*, 14.
- [9] Karl R. Wallace, "Topoi and the Problem of Invention," *Quarterly Journal of Speech* 58 (1972): 387.
- [10] Mark Backman, "Introduction," in *Rhetoric: Essays in Invention and Discovery*, by Richard McKeon (Woodbridge, CT: Oxbow Press, 1987), xxiii.
- [11] Charles W. Knepper, "A Modern Theory of Invention," *Communication Education* 32 (1983): 46.
- [12] James Berlin, "The Transformation of Invention in Nineteenth Century American Rhetoric," *The Southern Speech Communication Journal* 3 (1981): 293. The belletristic movement, in short, demoted rhetoric to a managerial art of style by "relieving" it of its functions of discovery.
- [13] Robert L. Scott, James R. Andrews, Howard H. Martin, J. Richard McNally, William F. Nelson, Michael M. Osborn, Arthur L. Smith, and Harold Zyskind, "Report of the Committee on the Nature of Rhetorical Invention," in *The Prospect of Rhetoric: Report of the National Development Project*, ed. Lloyd F. Bitzer and Edwin Black (Englewood Cliffs, NJ: Prentice-Hall, 1971), 228–36.
- [14] Louise Wetherbee Phelps, "Institutional Invention: (How) Is It Possible," in *Perspectives on Rhetorical Invention*, ed. Janet M. Atwill and Janice M. Lauer (Knoxville: The University of Tennessee Press, 2002), 64.
- [15] Wetherbee Phelps, 68.
- [16] Kenneth Burke, *Permanence and Change* (Berkeley: University of California Press, 1984).
- [17] Burke, 18.
- [18] Burke, 14.
- [19] The essays excerpted here are also available at <https://webpace.utexas.edu/cherwitz/www/ie/kern.html#pregrad>
- [20] Giambattista Vico, *The Autobiography of Giambattista Vico*, trans. Max Harold Fisch and Thomas Goddard Bergin (Ithaca, NY: Cornell University Press, 1944), 132. In his *Study Methods* Vico discusses the allure of scientific advancements in pharmacology, astronomy

- and exploration. He writes, "All these things were entirely outside the narrow range of the science of the Ancients; modern science throws a flood of light upon them." Vico, *Study Methods*, 10.
- [21] Rene Descartes, "Discourse on the Method of Rightly Conducting the Reason and Seeking for Truth in the Sciences," in *Discourse on Method and Meditations on First Philosophy*, ed. David Weissman (New Haven, CT: Yale University Press, 1996), 3–48; "Meditations on First Philosophy," in *Discourse on Method and Meditations on First Philosophy*, 49–108. See also Mikhail Lifshitz, "Giambattista Vico (1668–1744)," *Philosophy and Phenomenological Research* 8 (1948): 396; Michael Mooney, *Vico in the Tradition of Rhetoric* (Princeton, NJ: Princeton University Press, 1985), 21. Stephen Toulmin argues that the Cartesian program was well-received due to an intellectual climate wracked by political instability and the Thirty Years' War; "for the time being, that change of attitude—the devaluation of the oral, the particular, the local, the timely, and the concrete—appeared a small price to pay for a formally 'rational' theory grounded on abstract, universal, timeless concepts." Stephen Toulmin, *Cosmopolis: The Hidden Agenda of Modernity* (Chicago: University of Chicago Press, 1990), 75.
- [22] Antoine Arnauld and Pierre Nicole explicate the *Port-Royal Logic*, adapting Cartesian ideas into a system predicated on geometric methodology. *Logic or the Art of Thinking*, trans. Jill Vance Buroker (Cambridge: Cambridge University Press, 1996), 5. *Port-Royal* was instrumental in the pedagogical transformation of the Enlightenment. Vico's responses to Rationalist pedagogy often target Arnauld specifically, as when he describes the "pernicious practices" of "introducing philosophy to children barely out of grammar school with the so-called logic 'of Arnauld,' full of rigorous judgments concerning matters of the higher sciences, remote from vulgar common sense." Vico, *Autobiography*, 123.
- [23] Mooney, 89.
- [24] Giambattista Vico, *The New Science of Giambattista Vico: Translated from the Third Edition (1744)*, trans. Thomas Goddard Bergin and Max Harold Fisch (Garden City, NY: Anchor Books, 1961), 381.
- [25] Lifshitz, 396.
- [26] Yvon Belaval, "Vico and Anti-Cartesianism," in *Giambattista Vico: An International Symposium*, ed. Giorgio Tagliacozzo and Hayden V. White (Baltimore, MD: The Johns Hopkins Press, 1969), 79.
- [27] Vico, *Study Methods*, 77. See also Arnauld and Nicole, 6.
- [28] Mooney, 20.
- [29] Stephen Toulmin, "Descartes in His Time," in *Discourse on Method and Meditations on First Philosophy*, ed. David Weissman (New Haven, CT: Yale University Press, 1996), 125; John D. Schaeffer, *Sensus Communis: Vico, Rhetoric, and the Limits of Relativism* (Durham, NC: Duke University Press, 1990), 160.
- [30] Vico, *Study Methods*, 37.
- [31] Stephen H. Daniel, "The Philosophy of Ingenuity: Vico on Proto-Philosophy," *Philosophy and Rhetoric* 18 (1985): 238.
- [32] Vico, *Study Methods*, 24.
- [33] Donald Phillip Verene, *Vico's Science of Imagination* (Ithaca, NY: Cornell University Press, 1981), 219. Linking the concept to metaphor, Vico praises as ingenious "the student's specifically philosophic faculty, i.e., his capacity to perceive the analogies existing between matters lying far apart and, apparently, most dissimilar." Vico, *Study Methods*, 24.
- [34] Mooney, 151.
- [35] June T. Fox, "Giambattista Vico's Theory of Pedagogy," *British Journal of Educational Studies* 20 (1972): 28. Fox suggests that ingenium remains necessary as a source for novel thought and interdisciplinary bridge building: "Without its use and without its cultivation, the

domain of the humane studies is scorned, and the significant knowledge which only this domain reveals remains unknown.” 32.

- [36] Ernesto Grassi, “The Priority of Common Sense and Imagination: Vico’s Philosophical Relevance Today,” trans. Azizeh Azodi, in *Vico and Humanism: Essays on Vico, Heidegger, and Rhetoric*, ed. Donald Phillip Verene (New York: Peter Lang, 1990), 30.
- [37] It is important to note here precisely what the IE Internship is *not*. First, it is not a recruitment strategy. While the name itself suggests an emphasis on preparation for graduate school, the program is fundamentally inductive; as a result of being encouraged to think critically about their lives and ambitions, many interns ultimately decide against post-graduate study. Second, the Internship is not “service learning.” Explicating the benefits of such programs, Valerie C. McKay and Jeremy Estrella argue that these “present faculty and students with multiple opportunities to communicate about the relationship between course content and community service.” Valerie C. McKay and Jeremy Estrella, “First-Generation Student Success: The Role of Faculty Interaction in Service Learning Courses,” *Communication Education* 57 (2008): 358. They claim additionally that the advantages of integrating social and academic experiences are particularly significant for first-generation students; thus service learning initiatives buttress ongoing retention efforts in higher education. It is not clear, however, whether McKay and Estrella’s study actually “*expand[s]* on our understanding of social and academic integration” or simply reifies the two as separate concerns (368, emphasis added). What distinguishes the Internship from conventional service learning is that the latter almost inevitably reproduces academe’s problematic foundational assumptions; service learning, as the name indeed reflects, remains a product of an institutional tradition that compartmentalizes—classroom learning is different from community service; academic experiences are distinguishable from “real life” experiences. Richard A. Cherwitz and E. Johanna Hartelius, “Making a Great ‘Engaged’ University Requires Rhetoric,” in *Fixing the Fragmented Research University: Decentralization with Direction*, ed. Joseph Burke (Bolton, MA: Anker Publishing, 2007), 274.
- [38] Vico, *New Science*, 266. This passage is central to Vico’s contention that Homeric poetry did not stem from one individual, but rather evolved through the poetry of the Greek people themselves: “the Homeric poems, having been regarded as works thrown off by a particular man, a rare and consummate poet, have hitherto concealed from us the history of the natural law of the gentes of Greece.” 274.
- [39] Vico, *Study Methods*, 71.
- [40] Vico, *New Science*, 124. See also Ernesto Grassi, “Critical Philosophy or Topical Philosophy? Meditations on *De Nostris Temporis Studiorum Ratione*,” trans. Hayden V. White, in *Vico and Humanism: Essays on Vico, Heidegger, and Rhetoric*, ed. Donald Phillip Verene (New York: Peter Lang Publishing, 1990), 9; Mark T. Williams and Theresa Enos, “Vico’s Triangular Invention,” in *Perspectives on Rhetorical Invention*, ed. Janet M. Atwill and Janice M. Lauer (Knoxville: University of Tennessee Press, 2002), 199.
- [41] Vincent Bevilacqua, “Vico, ‘Process,’ and the Nature of Rhetorical Investigation: An Epistemological Perspective,” *Philosophy and Rhetoric* 7 (1974): 168.
- [42] Bevilacqua, “Vico, Rhetorical Humanism,” 81.
- [43] See, for example, John Hagaman, “Modern Use of the Progymnasmata in Teaching Rhetorical Invention,” *Rhetoric Review* 5 (1986): 22–9; Richard L. Larson, “Some Techniques for Teaching Rhetorical Invention,” *The Speech Teacher* 21 (1972): 303.
- [44] Carolyn R. Miller, “Aristotle’s ‘Special Topics’ in Rhetorical Practice and Pedagogy,” *Rhetoric Society Quarterly* 17 (1987): 64, 65.
- [45] Walter Jost, “Teaching the Topics: Character, Rhetoric, and Liberal Education,” *Rhetoric Society Quarterly* 21 (1991): 5.
- [46] Jost, 6.

- [47] Michael Leff, "Up from Theory: Or I Fought the Topoi and the Topoi Won," *Rhetoric Society Quarterly* 36 (2006): 208.
- [48] For example, Joanna Wolfe describes her instructional methods with literature and composition students. The objective reflected in her commentary, which is representative of a common pedagogical design, is to introduce students to disciplinary academic conventions: "The inventional strategies I discuss are meant to help students acquire the rhetorical forms and cultural equipment to communicate their ideas to other members of the discipline." Joanna Wolfe, "A Method for Teaching Invention in the Gateway Literature Class," *Pedagogy: Critical Approaches to Teaching Literature, Language, Composition, and Culture* 3 (2003): 402. In short, Wolfe uses specific techniques to teach students the kind of invention that will align them with academic standards. Similarly, Donald Lazare outlines his "theoretical attempt to develop a taxonomy of patterns of political argumentation, as well as a practical attempt to provide students with interpretive heuristics for understanding and evaluating the arguments they encounter every day in media of news, opinion, and entertainment, in peer discussion, and in mass-mediated electoral and legislative politics per se. Donald Lazare, "Invention, Critical Thinking, and the Analysis of Political Rhetoric," in *Perspectives on Rhetorical Invention*, ed. Janet M. Atwill and Janice M. Lauer (Knoxville: University of Tennessee Press, 2002), 133.
- [49] Jost, 12.
- [50] J. David Fleming, "Becoming Rhetorical: An Education in the Topics," in *The Realms of Rhetoric: The Prospects for Rhetoric Education*, ed. Joseph Petraglia and Deepika Bahri (Albany: State University of New York Press, 2003), 100. Fleming's project aligns with mine: first, he critiques that the rhetorical discipline "sweeps pedagogy under the rug." J. David Fleming, "The Very Idea of a Progymnasmata," *Rhetoric Review* 22 (2003), 113. Second, he urges rhetoricians not to reduce classical pedagogical models to perfunctory exercises, "rudimentary checklists for writing school essays," ("Becoming Rhetorical," 94), or "pedantry and busy work." "The Very Idea," 113.
- [51] Barbara Warnick, "Two Systems of Invention: The Topics in the *Rhetoric* and *The New Rhetoric*," in *Rereading Aristotle's Rhetoric*, ed. Alan G. Gross and Arthur E. Walzer (Carbondale: Southern Illinois University Press, 2008), 108.
- [52] Zagacki's and Keith's discussion of topical invention and scientific paradigm shifts is here instructive by analogy. They suggest that, while scientific topoi are "requisites for doing science, revealed in the communicative choices and the persuasive tactics employed by scientists," scientific revolutions are instigated by the innovative manipulation of generally accepted topics, and, in turn, give rise to new topics. Kenneth S. Zagacki and William Keith, "Rhetoric, Topoi, and Scientific Revolutions," *Philosophy and Rhetoric* 25 (1992): 59–60.
- [53] Wallace, 394.
- [54] Carolyn R. Miller, "The Aristotelian Topos: Hunting for Novelty," in *Rereading Aristotle's Rhetoric*, ed. Alan G. Gross and Arthur E. Walzer (Carbondale: Southern Illinois University Press, 2008), 141.
- [55] Vico, *New Science*, 74.
- [56] Verene, *Vico's Science*, 93.
- [57] Verene, *Vico's Science*, 158.
- [58] Vico, *New Science*, 49.
- [59] Jay Satterfield and Frederick J. Antczak, "American Pragmatism and the Public Intellectual: Poetry, Prophecy, and the Process of Invention in Democracy," in *Perspectives on Rhetorical Invention*, ed. Janet M. Atwill and Janice M. Lauer (Knoxville: University of Tennessee Press, 2002), 160.
- [60] Satterfield and Antczak, 154.
- [61] Vico, *Study Methods*, 19.
- [62] Vico, *New Science*, 215–16.

- [63] Isaiah Berlin, "A Note on Vico's Concept of Knowledge," in *Giambattista Vico: An International Symposium*, ed. Giorgio Tagliacozzo and Hayden V. White (Baltimore, MD: The Johns Hopkins Press, 1969), 375. See also Isaiah Berlin, *Three Critics of the Enlightenment* (Princeton, NJ: Princeton University Press, 2000), 48–52.
- [64] Nola Heidlebaugh calls this the "phenomenology of the moment: Possibilities are not lying in wait to be found; they are, in fact, made present *because* of the moment, invented out of the press of counteropinions, time, necessity, and linguistic possibility." Nola J. Heidlebaugh, "Invention and Public Dialogue: Lessons from Rhetorical Theories," *Communication Theory* 18 (2008): 45. Heidlebaugh also notes, "Conceptualized within a rhetoric of the possible, invention is not tied to the actual, the already there; rather, it focuses on the new, the innovative." 39. Invention is the deliberate process of mining the details of a given situation to discover and utilize inherent potential. In the interns' essays, the link between innovation and possibility is quite evident; the uncertain circumstances of not having precise instruction precede a moment of palpable enthusiasm.
- [65] Jost, 7.
- [66] Ramsey Eric Ramsey, "Listening to Heidegger on Rhetoric," *Philosophy and Rhetoric* 26 (1993): 266–76.
- [67] Thomas B. Farrell, "Rhetoric in History as Theory and Praxis: A Blast from the Past," *Philosophy and Rhetoric* 41 (2008): 335.
- [68] Bevilacqua, "Vico, Rhetorical Humanism," 81.
- [69] Robert J. Weber, "Toward a Language of Invention and Synthetic Thinking," *Creativity Research Journal* 9 (1996): 355.
- [70] Vico's list of the principles of the *New Science* illustrates his realization of the formal similarities among popular maxims: "There must in the nature of human institutions be a mental language common to all nations, which uniformly grasps the substance of things feasible in human social life and expresses it with as many diverse modifications as these same things may have diverse aspects. A proof of this is afforded by proverbs or maxims of vulgar wisdom, in which substantially the same meanings find as many diverse expressions as there are nations ancient and modern." Vico, *New Science*, 25; see also 105–6. Note furthermore how Vico synthesizes his observations to discern that disparate early cultures arrived at similar views of divinity: "For the heavens were observed as the aspect of Jove by all the gentile nations the world over, to receive therefrom their laws in the auspices which they considered to be his divine admonishments or commands." 117. Vico concludes: "From the foregoing we gather that the first laws everywhere were the divine laws of Jove. So ancient in origin is the usage which has come down in the languages of many Christian nations of taking heaven for God." 117.
- [71] Wallace, 389.
- [72] William F. Nelson, "Topoi: Evidence of Human Conceptual Behavior," *Philosophy and Rhetoric* 2 (1969): 5–6.
- [73] Michael Leff, "Topical Invention and Metaphoric Interaction," *Southern Speech Communication Journal* 48 (1983): 223.
- [74] Elbert W. Harrington, "A Modern Approach to Invention," *Quarterly Journal of Speech* 48 (1962): 375.
- [75] Wallace, 390.
- [76] Mark T. Williams and Theresa Enos, "Vico's Triangular Invention," in *Perspectives on Rhetorical Invention*, ed. Janet M. Atwill and Janice M. Lauer (Knoxville: University of Tennessee Press, 2002), 199.
- [77] Vico, *Study Methods*, 47.
- [78] Williams and Enos, 200. Making a similarly hopeful and compelling argument, Johnson and Kasarda claim that "the major advances of the future are more likely to emerge from interdisciplinary and cross-disciplinary research within universities—inquiries at the

- intersections of disciplines—and through interuniversity/private sector knowledge networks of scholars and researchers that span international boundaries.” James H. Johnson Jr. and John D. Kasarda, “Jobs on the Move: Implications for US Higher Education,” *Planning for Higher Education* 36 (2008): 28.
- [79] Joshua Gunn, “Refiguring Fantasy: Imagination and Its Decline in US Rhetorical Studies,” *Quarterly Journal of Speech* 89 (2003): 46.
- [80] Karen Burke LeFevre, *Invention as a Social Act* (Carbondale: Southern Illinois University Press, 1987), 34. Erik Juergensmeyer and Thomas Miller illustrate the utility and necessity of social invention in the context of conflict mediation and public deliberation. Specifically they characterize collaborative inquiry among diverse stake-holder communities as a mode of civic engagement. Erik Juergensmeyer and Thomas P. Miller, “Mediating Differences,” in *The Public Work of Rhetoric*, ed. John M. Ackerman and David J. Coogan (Columbia: University of South Carolina Press, 2010), 232–33.
- [81] Hoyt Hopewell Hudson, “The Tradition of our Subject,” *Quarterly Journal of Speech* 17 (1931): 320–29. Hudson’s emphasis on the topics, a subject addressed earlier in the essay, illustrates his classical orientation. Hoyt Hopewell Hudson, “Can We Modernize a Theory of Invention?” *Quarterly Journal of Speech Education* 7 (1921): 325–34.
- [82] Hoyt Hopewell Hudson, “The Field of Rhetoric,” *Quarterly Journal of Speech Education* 9 (1923): 170, 178. See also Everett Hunt’s eulogy of his Cornell colleague in “Hoyt Hopewell Hudson,” *Quarterly Journal of Speech* 31 (1945): 271–74.
- [83] Everett Lee Hunt, “General Specialists,” *Quarterly Journal of Public Speaking* 2 (1916): 253–63; “Rhetoric and General Education,” *Quarterly Journal of Speech* 35 (1949): 275–79; “General Specialists: Fifty Years Later,” *Rhetoric Society Quarterly* 17 (1987): 167–76. For a reception and discussion of Hunt’s program, see “A Symposium on Rhetoric and General Education,” *Quarterly Journal of Speech* 35 (1949): 419–26; “Rhetoric and General Education: A Symposium Continued,” *Quarterly Journal of Speech* 36 (1950): 1–9. For a treatment of Hudson’s and Hunt’s collaboration to establish the legitimacy of rhetoric in the Ivy League, see Jim A. Kuypers, “Hoyt Hopewell Hudson’s Nuclear Rhetoric,” in *20th Century Roots of Rhetorical Studies*, ed. Jim A. Kuypers and Andrew King (Westport, CT: Praeger, 2001), 71–102; Theodore Otto Windt, Jr., *Rhetoric as Human Adventure: A Short Biography of Everett Lee Hunt* (Annandale, VA: Speech Communication Association, 1990), 43–90; “Everett Lee Hunt and the Humanistic Spirit of Rhetoric,” in *20th Century Roots of Rhetorical Studies*, ed. Jim A. Kuypers and Andrew King (Westport, CT: Praeger, 2001), 1–30.
- [84] Thomas Sloane, *On the Contrary* (Washington, DC: The Catholic University of America Press, 1997), 33–47, 278–83.
- [85] Charles W. Kneupper and Floyd D. Anderson, “Uniting Wisdom and Eloquence: The Need for Rhetorical Invention,” *Quarterly Journal of Speech* 66 (1980): 321.