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Integrating architectural research within interdisciplinary global studies

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ABSTRACT: Research in the built environment is moving in new directions, yet architectural discourse regarding interdisciplinary research typically focuses on how other disciplines can inform architecture. This paper examines the value of the reverse process. Where can innovative architectural research *enter within* interdisciplinary programs and research *outside* the architecture discipline and profession? At a time when many universities are creating Global Studies programs, one wonders why the concepts, research, and practices of architecture are excluded. Certainly the design of human settlement is central to many of the supranational phenomena examined in global studies research, such as climate change, rapid urbanization, disaster relief and development, human health, and sustainability broadly conceived.

This paper develops a case study based on two years of participant-observation research analyzing a new interdisciplinary major in Global Studies at the University of Virginia. A complex partnership between the College of Arts & Sciences and the Schools of Architecture, Commerce, Education, Engineering, Leadership and Public Policy, and Nursing, the program structures research and courses around broad skills and methods of understanding global phenomena. Outcomes include both substantive knowledge and enduring life-enhancing skills. While Public Health, Development Studies, and Security and Justice were originally planned concentrations for the major, serious consideration of the built environment was absent. As a Professor of Architecture, I worked to integrate environmental issues within the proposed major through a Global Environments and Sustainability concentration. The architectural discipline's knowledge and research methods, such as design thinking, participatory and practice-led research and experiential learning methods, can effectively contribute to a focus on creating innovative solutions to real-world environmental, social, and economic challenges. The Global Environments + Sustainability approach establishes a translatable model to bring research in sustainable architecture and environmental design to the forefront of Global Studies.

KEYWORDS: Global Studies, Architecture, Sustainability, Interdisciplinary Research

INTRODUCTION

As noted by the Architectural Research Centers Consortium conference conveners, "Research in architecture, design and the built environment is currently diversifying and reaching new directions. Technological changes, such as new materials, construction techniques and design representations, have accelerated the need for research within design disciplines" (ARCC 2015). Yet architectural discourse regarding interdisciplinary research typically focuses on how other disciplines, particularly the hard, applied and social sciences of computation, engineering, materials science, biology, and cognitive psychology, can inform architecture. The humanities contribute philosophy and critical theory to the mix. It seems that the architectural discipline is unsure of what knowledge, research methods and pedagogical approaches we have to offer those *outside.* This paper examines the value of the reverse process. Where can innovative architectural research *enter within* interdisciplinary programs and research *outside* the architecture academy and profession? Global Studies offers a significant new territory for architectural research.

1.0 RETHINKING GLOBAL STUDIES

This case study aims to help others create integrative research agendas and interdisciplinary approaches and programs that are particularly crucial in the current university environment. Many of today's most pressing issues are too complex for one discipline, grants increasingly require interdisciplinary teams, and student demand for interdisciplinary programs is ever growing. Design thinking and data visualization are two areas, for instance, where the architectural discipline is influencing other areas of knowledge. At a time when universities around the world are creating interdisciplinary Global Studies programs, one wonders why the concepts, research, courses and practices in architecture and the built environment are rarely included in the mix.

1.1. Why global studies and architecture?

Since the 1990's there have been an increasing number of academic conferences, associations, research publications, and university degree programs focused on global studies. There are several reasons for this development. As noted in a recent overview of the history of Global Studies:

> The emergence of Global Studies as a distinct interdisciplinary field occurred at a time when globalization was increasingly and profoundly affecting multiple areas of people's everyday lives. Scholars and students have found that Global Studies enhances our understanding of global phenomena by bringing the methodologies and discourses from a variety of disciplines to bear on many of the most pressing issues of our day. Global Studies makes connections not only among various disciplines but also between the local and the global, and oneself and others (Campbell 2010, xviii).

As would be expected in an interdisciplinary field, the scope of global studies varies considerably between institutions. For instance, the Global Studies Association was established to address "the vast social, political & economic transformations of global scope which are impacting upon the world today" (GSA 2014). Note that environmental transformations are missing from the mission statement. A few recent textbooks, such as *The Globalization Reader* and *An Introduction to Global Studies* do include chapters on "Global Environmentalism" (Lechner 2012) or "The Natural Environment" (Campbell 2010), however, they tend to undervalue the designed transformations of the built environment.

There is a very different way to think about the scope of Global Studies. As stated in a 2014 report prepared by the University of Virginia's Global Curriculum Committee:

> The GS curriculum aims to foster creative thinking about complex global challenges that cross borders by drawing on the substantive knowledge of multiple disciplines and by equipping students with analytic tools, language expertise, and cross-cultural insight, thereby enhancing their understanding and ability to work and lead in an interconnected world" (UVA 2014, 4).

Certainly the design of human settlement is central to many of the supranational phenomena examined in global studies research, such as global climate change, movements of people and rapid urbanization, disaster relief and development, human health, and sustainability broadly conceived. Is architecture excluded because the physical world is often undervalued in the humanities disciplines that typically form the core of global studies: politics, history and economics? Deep divisions between environmental science and environmental design departments often prevent a more holistic environmental understanding that thereby limits productive research and teaching opportunities. The knowledge and research methods of the architectural discipline have much to contribute and to gain from this effort. For instance, few of the liberal arts disciplines incorporate participatory research, design research, or experiential learning methods that are particularly important given the focus on establishing community partnerships to create innovative solutions to local environmental, social, and economic issues. By examining a conception of Global Studies that incorporates architecture as a crucial area of research and study, this paper aims to develop a translatable model for Global Studies.

1.2. A case study: global studies at the University of Virginia

Faculty in a diverse range of disciplines at the University of Virginia were conducting research and teaching about *the global* and globalization, yet a formal program in Global Studies was not established until April 2014. A Global Curriculum Committee was appointed by the Provost during the 2012-13 academic year to study the value and viability of Global Studies at the University. The Committee's final report was submitted in April 2013 and recommended creating a new Global Studies undergraduate major with six concentrations. Graduate programs and research faculty hires were to follow. The program was conceived as a complex partnership of numerous academic units, including Arts & Sciences, Architecture, Commerce, Education, Engineering, Leadership and Public Policy, and Nursing (Fig. 1). As articulated in the final Committee report, "A major in Global Studies will allow students to draw on the best from across the University to prepare for the 21st century world where cultures, ideas, histories, vulnerabilities, environments, and human needs are increasingly interconnected" (UVA 2014, 3). Moving forward with Global Studies required the commitment of a wide range of University stakeholders, including the President, Faculty Senate, Schools, Departments and individual faculty members and students. During her Fall 2013 Welcome Address, University of Virginia President Sullivan noted the importance of "the ability to think with a global comparative perspective and to thrive in an interconnected world of diverse cultures…we will create a Global Studies curriculum that allows students to address global challenges such as health, development, and sustainability in their academic studies" (UVA 2014, 4). A Global Studies Operational Committee worked during the 2013-14 academic year to refine the proposal for review and University approval.

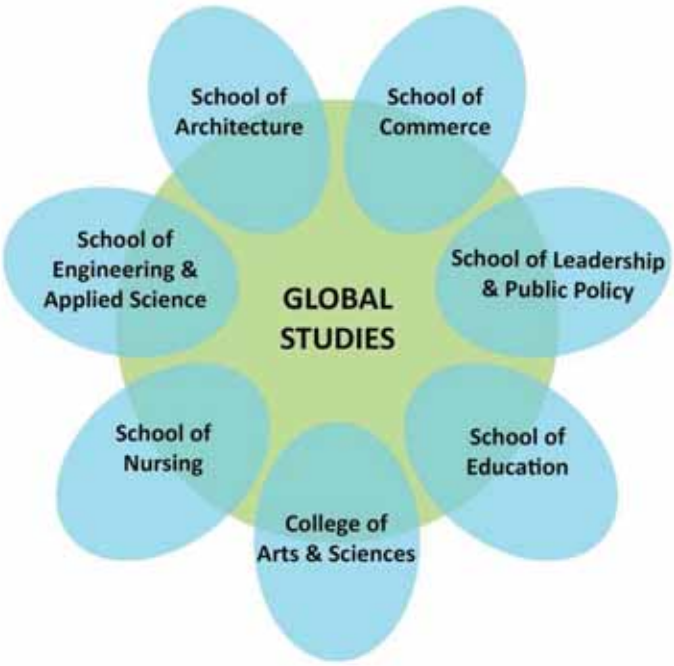

Figure 1: Global Studies as a Partnership of Academic Units at the University of Virginia.

Throughout the planning process the most debatable issues were overall program scope, disciplinary involvement, and the particular concentrations or tracks that would comprise the major. Writing about the range of interdisciplinary programs at the University, Anthropology Professor Richard Handler noted: "…what distinguishes all these [interdisciplinary studies] programs from disciplinary majors is not their interdisciplinarity but their interstitial institutional position" (Handler 2013, 195). There are many uncertainties and associated opportunities for a major outside the traditional disciplinary departmental structure, where funding and political power is consolidated at most universities. Discussions about which disciplines and departments should be involved and the specific titles of the tracks were contentious at times. As the School of Architecture representative on both committees over the two-year development period, I advocated for the important role of both the *natural* and *constructed* physical environment in global studies. Sustainability was the primary concept that joined faculty research in the physical sciences and the built environment. These issues were not initially acknowledged in committee discussions. Building on a successful interdisciplinary Minor in Global Sustainability initiated and offered by the School of Architecture, I argued for and developed a concentration in Global Environments and Sustainability to be included in the major. That track was ultimately approved long with three others: Global Public Health, Global Development Studies, and Global Security and Justice (Fig. 2). Together the interdisciplinary major and minor programs bring research in sustainable environments and architecture to the forefront of global initiatives at the University of Virginia.

1.3. Global environments + sustainability

The Global Environments and Sustainability (GSVS) track addresses problems associated with human transformations of the earth through the triple lens of environment, equity and economy. The relationship between human societies and the planet have created many of today's most intractable global challenges. A key characteristic of these problems is their multidisciplinary scope and scale, encompassing not only technical issues, but also historical, social, political, ethical, environmental, economic and aesthetic ones. Students develop knowledge and skills for the study and sustainable transformation of the physical environment. Along with four required Global Studies core courses, the concentration begins with a project-based foundation course entitled *Global Sustainability.* Students work in teams to realize a *Think Global / Act Local* project with campus and community partners. Together they create innovative solutions to local environmental, social, and economic challenges. Students select five courses from an approved course list distributed in environment, equity and economy areas. The figure below depicts the GSVS curricular structure and course offerings (Fig. 3). Foreign language and global experience co-requisites complement core classes. Along with educating about the many facets of sustainability, the Global Studies major is

designed to empower students to accomplish positive change through a senior Capstone project completed under the guidance of faculty advisors from different disciplines.

Figure 2: Structure of the interdisciplinary Global Studies Major at the University of Virginia.

2.0 ARCHITECTURE WITHIN GLOBAL STUDIES

How are architectural knowledge and research methods valuable *within* global studies? Climate change, sea level rise, rapid urbanization, disaster relief and development, human health, sustainability and other supranational phenomena examined in global studies research are all connected to how we physically inhabit the planet. The way that architects approach problems using design thinking, speculative research and participatory design can greatly contribute to a Global Studies program focused on creating innovative solutions to real-world environmental, social and economic challenges.

2.1. Beyond critical thinking

In his essay, “Beyond Critical Thinking,” Michael S. Roth examined the limitations of critical thinking and its potential negativity in the humanities. As an intellectual historian and president of Wesleyan University, Roth is interested in teaching students “how to engage in the practice of exploring objects, norms and values that inform diverse cultures. In doing so, students will develop the ability to add value to (and not merely criticize values in) whatever organizations in which they participate” (Roth 2010). Adding value requires speculative and innovative thinking beyond mere critique. Several humanities disciplines involved in global studies practice a critical thinking approach that often does not lead to creative problem solving. The *design thinking* (Rowe 1987) and *systems thinking* (Meadows 2008) approaches that predominate in the architecture discipline can be introduced into Global Studies to open possibilities as both students and faculty confront *wicked problems* of global scope. Project-based learning, while not a common pedagogical approach in the humanities, may be successfully translated from architecture as well.

Figure 3: Global Environments and Sustainability Curriculum.

2.2. Design research

From amongst the many accepted architectural research strategies (Groat 2013),[i] design research has a distinct contribution to make in Global Studies. Design research has been theorized in slightly different ways using terminology such as practice-led research, performative research, and research by design. Whatever the nomenclature, practice-led research differs from problem-led research that always begins with a problem to be solved. "This is not to say these [practice-led] researchers work without larger agendas or emancipatory aspirations, but they eschew the constraints of narrow problem setting and rigid methodological requirements at the outset of a project" (Haseman 2006, 4). Often this type of research includes community participants and/or experiential learning methods. As a complement to other research methods in Global Studies that often focus on global policies or top-down strategies, starting with local conditions can lead to radically different proposals—many of which may be replicable or translatable to very different locales.

2.3. Agency

Most Global Studies faculty and students want to do more than analyze and understand global challenges. They want to act. This desire for individual and collective agency is particularly strong around pressing sustainability challenges. "Agent of change" is one of the most popular phrases on college campuses today, while student organizations seeking to bring about intentional charge have dramatically grown in number, scope and effectiveness. Arguments for human agency in Global Studies can be supported several theories, including Bruno Latour's actor-network theory (Latour 1987) and Anthony Gidden's structuration theory.

> [Agency] means being able to intervene in the world, or to refrain from such intervention, with the effect of influencing a specific process or state of affairs. This presumes that to be an agent is to be able to deploy a range of causal powers, including that of influencing those deployed by others. Action depends on the capability of the individual to "make a difference" to a pre-existing state of affairs or course of events. An agent ceases to be such if he or she loses the capability to "make a difference", that is to exercise some sort of power (Giddens 1984, 14).

Along with this concept of human agency, and by questioning the privileging of subjectivity and consciousness so prevalent in the humanities, the significance of the physical world and the reengagement with everyday material realities can also be embraced. The "new materialism" of Manuel DeLanda (and

Jane Bennett's sustainability-focused theory of "thing-power materialism" foster a "greater recognition of the agential powers of natural and artifactual things, greater awarenesss of the dense web of their connections with each other and with human bodies, and finally, a more cautious, intelligent approach to our interventions in that ecology" (Bennett 2010). Building on the work of Spinoza and Deleuze, Bennett's argument for the power of inanimate things to interact with other things to produce effects helps to explain the crucial role for the design disciplines in Global Studies.

CONCLUSION

Architecture's concepts, research methods and practices have much to contribute *within* interdisciplinary programs and research *outside* the architecture discipline and profession. The interdisciplinary Global Studies Major at the University of Virginia is a compelling example of how research in sustainable environments and architecture is brought to the forefront of Global Studies. This case study examined the intentions and process of creating the Global Studies program and the Global Environments and Sustainability concentration. An evaluation of the implemented program itself will have to wait for the first class of graduates in 2016 as the program develops over time (Fig. 4). The next phase of this research will monitor and analyze the types of faculty and student research being conducted and student learning outcomes in required courses. While this effort to create a shared space within the university for interdisciplinary research and study is significant, perhaps the next goal should be to go beyond interdisciplinarity within the institution and to create inter-institutional relations to better and more collectively address the greater environmental issues we all face.

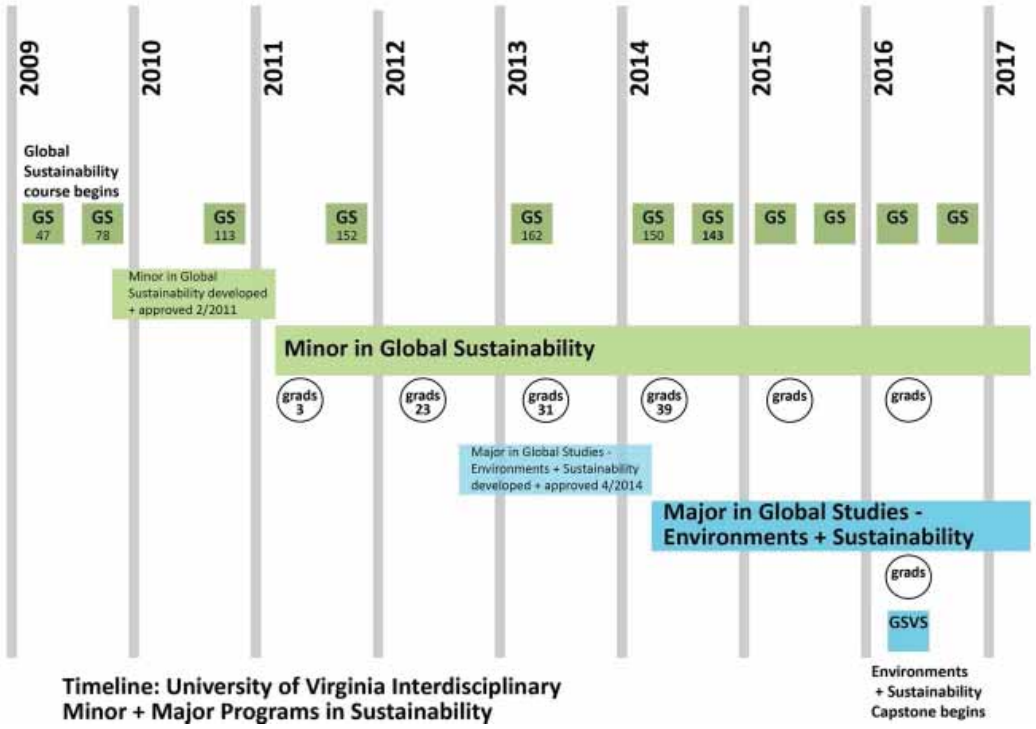

Figure 4: Timeline of Global Studies GSVS Major with Related Global Sustainability Course and Minor.

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ENDNOTES

[i] For a comprehensive overview, see *Architectural Research Methods* (Groat, Wang 2013). The authors examine seven architectural research strategies in-depth, including historical research, qualitative research, correlational research, experimental & quasi-experimental research, simulation research, logical argumentation, and case studies & combined strategies.