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# Research at the Crossroads: How Intellectual Initiatives across Disciplines Evolve

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“[The science and religion faculty group] is just great fun. It’s great intellectual stimulation from a lot of smart people around the table. . . . People tell me that they look forward to this more than anything each week. . . . Personally . . . my whole academic life has been radically enhanced by the opportunity to talk with physicists and medical doctors.” —a humanities faculty member and leader of a science and religion faculty group

Intellectual activity that spans traditional disciplines has redefined academic accomplishment. Whereas flexible cross-disciplinary teams spark industrial innovation, creative academic alliances address complex social and scientific problems. External organizations encourage this collabora-

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tion by funding research across fields (Brainard, 2002). Presidents and other leaders, especially at research universities, acknowledge this trend by supporting interdisciplinary scholarship.

By intellectual initiative, we mean an academic project that faculty design to explore certain questions or ideas. Many take the mature form of centers or institutes, and some are quite large and robust. Others might be discussion groups or seminars in earlier stages of maturity. In this paper we investigate 11 initiatives at Emory, a research university in the southeast United States. By studying the initiatives and interviewing their leaders, we attempted to learn how they formed and flourished. The study is part of a systematic exploration at Emory of successful interdisciplinary academic programs and the conditions that support them. The lessons learned may help other academic institutions tailor policies, practices, and resources to support similar activities.

To be included in the study, each initiative had to span two or more schools of the university and have a significant research component. We are interested in the conditions that help such programs succeed, because we believe that intellectual work across boundaries is at the heart of new intellectual communities in the academy.

### CONNECTING ACROSS KNOWLEDGE FIELDS

At Emory as well as at universities across the United States, scholars cross disciplines to address important problems that extend beyond the scope of traditional knowledge fields. This pattern supports historian Roger Geiger's (1990) contention that interdisciplinary programs play a "mediating" role by linking the needs of the knowledge society and the capacity of universities to produce that knowledge. In addition to making this link, the programs help institutions retain their most prominent scholars, secure external funds, and increase their prestige (Benowitz, 1995; Bohen & Stiles, 1998; Hollingsworth, 1996; Klein, 1996; Rice, 1996; Slaughter & Leslie, 1997). The initiatives may also challenge traditions and rules that have defined universities historically.

Though it has been growing more popular, interdisciplinary scholarship is not new. Partnerships between the United States government and many American universities during and after World War II prompted early initiatives to develop. Geiger (1990, 1993) labeled the most formal and prominent of these partnerships "organized research units" and described how they expanded knowledge and raised the reputations of some universities. Because interdisciplinary research tends to be more applied than traditional disciplinary inquiries, these units complement the research mission of individual departments while providing a buffer between public demand for applied research and the academy's intellectual core.

Learning how such programs develop and gauging their effectiveness, however, presents a challenge for leaders as well as for researchers. The organization of universities, for example, into traditional departments poses barriers to the more fluid and flexible structures that interdisciplinary programs require. Karl Weick (1991) used the term "loosely coupled systems" to describe the bureaucratic and collegial management styles that bind a university together. While the highly professional nature of faculty work calls for collegial styles of governance and interdisciplinary interaction among scholars, rational decision-making and standard operating procedures call for formal hierarchies at the university, school, or department level.

Thus, interdisciplinary programs—complex systems with their own requirements for practice—challenge typical academic structures and norms (Frost & Gillespie, 1998; Geiger, 1990, 1993; Lattuca, 2001; Newell & Klein, 1996; Slaughter & Leslie, 1997; Sporn, 1999). In most research universities, administrative structures and policies favor traditional departments and disciplines with which interdisciplinary initiatives compete for intellectual and resource capital. Initiatives may also challenge rules that govern promotion, tenure, or other procedures. However, some disciplines are more permeable than others. The humanities and social sciences, for example, are considered more holistic, personal, and value laden, and less codified than the physical or natural sciences.

A case study of two interdisciplinary initiatives at Harvard revealed how traditional structures and innovation across disciplines can clash (Bohen & Stiles, 1998). The findings showed that scholars add interdisciplinary activities to their more traditional responsibilities, rather than substituting one for the other. During times of fiscal constraint, departmental resistance to this increased load is likely to be even higher.

### KEY QUESTIONS

Emory consists of the arts and sciences, a graduate school, and six professional schools. A major donation in 1979 allowed the university to transform itself from a regional university with a strong teaching mission into a major research institution. In 1994, Emory joined the Association of American Universities (AAU), composed of the top 62 research universities in North America.

Due to the historical importance of the medical and professional schools, Emory tends to make decisions in decentralized ways. Typically, each school allocates resources to specific academic programs, with the respective deans funding the departments as well as interdisciplinary centers within a school. The involved deans fund collaborations across schools, sometimes with the help of department chairs. However, such initiatives also may get direct

funding from the university academic affairs officer, a more central form of support. The participating departments handle faculty appointments and meet space needs in collaboration with the respective deans. To some extent, these arrangements address the practical needs of interdisciplinary scholarship, although tension and competition often accompany them.

Given these complexities, we began with three questions designed to deepen our understanding of how intellectual initiatives live and breathe, flourish or flounder.

1. What factors help shape the genesis and evolution of cross-school intellectual initiatives?
2. What benefits do they offer for both faculty and the university?
3. What conflicts do they encounter?

### OUR APPROACH

We used a qualitative case study approach (Merriam, 1998; Yin, 1994) and invited an advisory group of faculty to provide feedback on study design, interview protocol construction, and data analysis. First we compiled an inventory of over 40 programs that crossed at least two schools of the university and featured a significant research focus for faculty. Following a survey of those programs, we selected 11 initiatives for in-depth study, including African American studies, behavioral neuroscience, ecology and disease, health and society, East European studies, global learning, law and religion, psychoanalytic studies, religion and science, injury control, and violence studies. (See the appendix for program descriptions.) They ranged from large centers that receive funds from outside agencies to faculty groups with modest internal funding.

We conducted open-ended, semi-structured interviews with leaders of the 11 initiatives and used program literature to supplement the interview data. The protocol included 40 questions about the origin, mission, organizational structure, support, barriers to implementation and development, and future plans of cross-school initiatives. The interviews were audio-taped and transcribed verbatim. The analysis involved coding the statements by content area and identifying similarities and differences. Multiple coders reviewed some similar material to enhance internal reliability.

Several limitations should be noted. The first concerns generalizing from the findings of qualitative research (Merriam, 1998; Patton, 1990). Because we conducted a qualitative analysis of a limited subset of diverse programs at the university as a preliminary investigation, caution should be taken when applying our findings both across the university and to other research universities. With the study's limited resources, we chose to focus on the nature of these programs at our institution as a first step.

Other limitations concern both the nature of the data sources and the sample. Because we relied primarily upon narratives from interviews with program leaders, we may have failed to capture potentially divergent views of faculty and students who also participated in these programs. However, we determined that our approach would provide valuable insight into the background of these programs from the perspective of their leaders or founding members. Though diverse in terms of scope and content, our sample includes only leaders of programs that have achieved at least a reasonable level of success and stability. Unfortunately, we were unable to locate faculty members representing initiatives that failed. Although we canvassed the faculty for such narratives, people seemed reluctant to discuss negative experiences. What is more, many of the initiatives in this study are relatively new. Because of the rapid growth at Emory over the last two decades, six of the 11 programs have existed five years or less. The other five have existed from between six and 30 years, giving us some idea of patterns of longer evolution.

### GENESIS AND EVOLUTION

Although the 11 programs varied widely in scope and content, our interviews suggest several important common factors in their genesis and evolution. Two of these factors are traits that leaders bring to programs. Three are assets that members of initiatives can cultivate. Other factors concern practices the initiatives use to manage their activities and the benefits they offer to the university and individual scholars.

#### *Built-in Strengths*

Certain traits of the founding scholars play a key role in helping to launch and sustain initiatives. Most of the 11 programs started because one or two scholars were committed to an idea and worked on it together, day after day. For example, the founder of the psychoanalytic studies program, who had a background in both anthropology and psychoanalysis, was uniquely qualified to bring together clinical and academic perspectives on psychoanalysis. In this program, faculty from a medical institute related to psychoanalysis joined scholars from law, history, anthropology, and literature to discuss the history, theory, and application of psychoanalytic thought. As another example, a biologist whose vision of merging principles of ecology and evolutionary biology with the study of infectious disease led out in creating the program in ecology and disease. Almost 30 years ago, a sociologist and a humanist grasped the potential for developing an African American studies program that continues to this day.

Although the programs were different, the leaders displayed similar personality traits, such as dedication, patience, consistency, imagination, tact,

and organization—all components of political skill. For example, one director believed that “the directorship works better when there is a sense that is beyond obligation or duty,” calling this force “a passionate commitment to the topic.” Another director noted that a certain “public spiritedness” along with a “consistency of vision” provide “critical” ingredients for launching cross-school initiatives. For the leader of a third program, interdisciplinary programs require both leaders and faculty who can think and act “outside the box . . . reaching across disciplines and looking for connections.” According to that director, good leadership requires the diplomatic skills and open-mindedness to “sell the program” not only to potential scholarly participants but also to the “administration and the larger community.”

The second trait of leaders flows from the collegial or collaborative relationships they have formed across the university. For example, team-teaching encouraged faculty to reach out to colleagues beyond their discipline and strengthen relationships across departments and schools. Three faculty members in religion, biology, and physics developed one such relationship. Soon it grew into a discussion series in science and religion that flourished well beyond its teaching roots. In some cases, joint appointments supported new collegial relationships. For example, one faculty member with a joint appointment in history and public health used his status in two different schools to develop a program in health and society. Two other leaders followed suit. Their joint appointments provided evidence of multiple areas of expertise to deans and other leaders who provided program support.

Some leaders’ collegial networks helped bring intellectual and financial resources to their programs. Often founders drew on relationships established outside their home discipline in other interdisciplinary forums at or beyond the university, or through work on university-wide committees. One program founder drew on his well-established ties across the university to gather diverse faculty together. When key administrators noticed that a passionate interest for a scholarly topic recurred in the founder’s discussion groups, seed money soon followed. Furthermore, his standing in national professional associations attracted external recognition. This blend of internal and external resources helped launch and sustain the program.

### *Assets to Cultivate*

The first asset that leaders cultivated concerned the mission of the program and the outside connections it could establish. We found that predominantly outward-looking and problem-based research missions of cross-school initiatives drew initial interest and support. For example, the law and religion program developed a focus on scholarship pertaining to human rights; the health and society program gathered scholars, commu-

nity leaders, and public health officials to address community-based approaches to preventing disease; and the science and religion program grappled with the effects of physician-assisted suicide, genetic screening, and the ethics of alternative medicine.

Because the missions of these programs were focused outward and problem-based, connections across institutions in metropolitan Atlanta played an important developmental role as well. Three fourths of the initiatives we studied depended on resources provided by Atlanta institutions, including government agencies and other universities. For example, the neuroscience program drew on colleagues from several local universities to win a grant to investigate the relationship between neurology and social behavior. Another program leader described Atlanta's combination of resources in biology and public health as necessary for understanding a particular infectious disease. In another example, the proximity of other universities provided sufficient intellectual capital as well as shared meeting places to help the program in psychoanalytic studies form.

Health-based programs, however, were not alone in finding resources in the urban context. Several programs that drew on the humanities and social sciences also depended on area clergy, lay people, and practicing attorneys to advance their understanding of problems related to law, human rights, and family, for example. Across the intellectual spectrum, small collaborations seemed to attract new partners as they gained momentum.

Early support or "seed money" from central administrators appears to be a second crucial asset that many successful programs share. Six of the 11 programs relied on seed money. To launch the neuroscience program, for example, early financial commitment from Emory and a state governmental agency helped to win a \$20 million dollar grant from the National Science Foundation. Similarly, the global learning program received an external gift early on, yet other funds from the provost supported the program's set up. Small-scale help can be powerful as well. Although the law and religion program later received funding from a number of schools and administrative units as well as external grants, a few thousand dollars of seed money from the provost's office helped establish the program in 1982. In addition, many leaders described the early support and enthusiasm of deans, provost, department chairs, or leaders of other interdisciplinary programs as critical in getting programs off the ground.

To establish strength, however, programs require diverse resources, which some leaders described as "outside-in" and "inside-out" approaches to getting the funds they need. Almost all of the initiatives received some help from government agencies or foundations, and in some cases these funds were substantial. We found that leaders who relied on several sources felt freer to develop their initiatives. As one director noted, "Since we are not dependent on anybody's funding, we kind of go wherever we want [and are

free to] make a deal with arts and sciences or put together a project with medicine.” Thus, the diversity of funding sources seemed to elevate the initiative’s autonomy.

Leadership, governance, and funding practices tend to expand into a collegial web of networks as successful initiatives evolve—the third important asset. Although the programs often relied on a small administrative structure, larger pools of faculty across the university helped accomplish the mission. Nine of the 11 programs had a core faculty of fewer than five people, while only one had a core faculty of 16 or more. While four programs had an affiliated faculty of over 20 professors, the other seven had between six and 20. Although approaches to governance varied, the more mature initiatives developed committees to make decisions, a practice that gave programs critical staying power.

### *Flexible Practices*

Further, a program’s capacity to adapt can influence its development. Flexible governance structures permitted leadership practices to change as interests and funding opportunities shifted, for example. According to one director, decentralized leadership “builds faculty buy-in and commitment to the program.” In some cases, external funding agencies urged programs to form an executive or advisory board, helping them move away from dependence on a single vision.

The maturity of a program also appears to be a factor in its evolution. Initiatives with 15 or more years of experience had evolved from one or two central leaders into a broader structure that relies on a core group of faculty to chart a strategic course. One older program has a 35-member university committee and a seven-member executive board to guide its future. Expanding the leadership gave more scholars a stake in long-term success. Even though responsibility for strategic decision-making expanded, however, older programs often left daily decisions to one or two core leaders.

Just as some leadership practices changed over time, so did the missions. Interestingly, none of the leaders envisioned a natural endpoint for their initiative. Instead they described a cycle in which one project faded as another took its place. In other words, the initiatives adapted to faculty’s changing interests as fields, resources, and technologies evolved. Inspired by several professors’ interest in team-teaching, one program grew to serve the research interests of a broader group. Several others began with a focus on faculty but added graduate students over time. One program, originally formed to allow faculty to explore advanced topics of history and public health, later developed fellowship opportunities for graduate students.

### *Broad-Based Benefits*

Some leaders described how their initiative contributes to academic distinction that builds on the strengths of faculty, suggesting that cross-disci-



plinary initiatives can be sources of prestige for the entire university. Other leaders, especially of smaller programs, noted that their initiatives garnered national and international prestige with a relatively small investment.

These programs not only benefit the university, they benefit individual scholars as well. According to the leaders we interviewed, faculty who may not fit within traditional boundaries can flourish in interdisciplinary programs. Some leaders even described their programs as a “refuge,” where one can “refresh oneself intellectually.” As a humanist involved with a science and religion faculty group said: “It’s just great fun. It’s great intellectual stimulation from a lot of smart people around the table. . . . People tell me that they look forward to this more than anything each week. . . . My whole academic life has been radically enhanced by the opportunity to talk with physicists and medical doctors.”

Although this study included only initiatives that had a research mission, it is interesting to note that each initiative also features some kind of educational component that benefits students. Although only one third of the programs offer a degree or minor concentration, all offer undergraduate courses, open lectures, internships, or training opportunities for graduate students. Often this educational component provides key resources as well. In some cases, a commitment to undergraduate or graduate education helped secure external or internal funding. In other cases, graduate students contributed intellectual energy, enthusiasm, and work. Two leaders specifically identified the labor of graduate students—both intellectual and logistical—as an important resource for their program.

### EXCEPTIONS TO THE RULE

Due to our small sample size, strong patterns of variation are difficult to discern. We can, however, make some observations for other studies to test. Our study concurs with Geiger (1990), who observed that, when cross-disciplinary programs address societal problems, they serve as a buffer between universities and societies, supporting the flow of resources between them. The health and society program’s connection with the Centers for Disease Control was “critically important” for funding, while the program in injury control relied on connections with numerous hospitals and government agencies. Said the injury control director, “We are up to our ears in metro Atlanta and Georgia . . . in a way that is not the typical *modus operandi* for Emory.”

Although by definition the initiatives we studied cross disciplines, those anchored in health sciences or other professions are more likely to be funded by external sources. In contrast, initiatives anchored in the humanities and social sciences tend to face more difficult funding challenges. For these programs, timely internal support can be critical. Broad faculty interest in psy-

choanalysis took hold only after a department, the provost, and one dean jointly funded the psychoanalytic studies program. Similarly, humanities-based programs such as African American studies, violence studies, and Russian and East European studies all required internal seed money to get off the ground, while the programs in injury control and in disease ecology found internal support to complement their external sources.

### SWEAT INEQUITY AND OTHER CONFLICTS

As we noted in the introduction, these programs face real challenges. Although they forge important external ties, raise prestige, and stimulate scholarly work, the free-flowing interaction on which that work depends can clash with the more traditional administrative structures of departments and schools (Baldrige et al., 1991; Bohen & Stiles, 1998; Klein, 1996; Lattuca, 2001; Newell & Klein, 1996; Weick, 1991). We defined four categories of conflict between the flexibility that scholars and programs need and the more rigid bureaucracies in which they exist: coordination and time constraints, access to resources and rewards, leadership transition, and communication.

First and foremost, leaders related time pressures to multiple responsibilities, naming coordination and time constraints as the most serious obstacle they faced. Indicating that interdisciplinary work is done “on top of” departmental responsibilities, one director described running the program as a “one man show” performed across two schools. While “sweat equity” seems necessary to prove the worth of a new approach to knowledge, leaders also acknowledge the difficulties of wearing “multiple hats” while being “spread too thin.”

Because the programs often begin as “one person shows,” leaders must meet their program-related responsibilities in addition to those of the home departments. These leaders would agree with Harvard faculty who participated in a similar case study and referred to their program work as a “night job” (Bohen & Stiles, 1998). Our interviews reveal the importance of coordinating cross-school programs by articulating needs, setting workable boundaries, and balancing diverse roles and responsibilities. Otherwise, the combination of departmental and program work can impede cross-disciplinary work—the very activity it is designed to advance.

Conflicts with departments over access to faculty and failure to value interdisciplinary work in tenure and promotion decisions present a second set of obstacles. Faculty leaders frequently voiced concerns about a lack of recognition of their cross-school work, while conflicts with departments over duties of teaching, research, and service represented their greatest obstacles. As Shawn Bohen and James Stiles (1998) noted, the research university reward structure is geared toward individual endeavors tied to departments rather than toward collaboration across disciplines.

However, some leaders have developed ways to help departments recognize the work of the participants. For example, one leader describes the quality and volume of each participant's initiative-related work in a letter that contributes to mid-tenure and tenure reviews. This practice, according to the director, "has played a valuable role in securing tenure for young faculty," who fear that interdisciplinary scholarship may be undervalued.

Closely related to this issue are broader conflicts of faculty time and labor between initiatives and departmental homes. Leaders of three programs avoided conflict by rotating teaching requirements among several departments or by incorporating work already being done in home disciplines. Thus, no single department was overtaxed. Other leaders cross-listed courses so that faculty members got proper credit for teaching.

The variation of reward structures across the university also presents barriers. Most scientists raise part of their salaries through research grants from agencies like the National Institutes of Health (NIH) or National Science Foundation (NSF), while the salaries of arts and sciences faculty come from the university. This variance caused several leaders to note that medical and public health faculty find it more difficult to participate in the initiatives.

Because cross-disciplinary programs rely on dynamic and visionary founders, they may lose momentum when a new leader takes over. This is the third problem leaders identified. Although some leaders worried that progress might stall during transition, most predicted that topics would continue to evolve, activities would mature, and funding would remain in place. None of the leaders envisioned a natural endpoint to their programs, although several expressed concern about smooth leadership transitions. When one scholar alone seems to define an initiative, the future can be uncertain.

Several leaders, especially those associated with centers that lacked a more formal or committee-based structure, wished for ways to institutionalize the collegial connections that had fueled the early stages. One director asked for a way to reach consensus about the future: "What do we want the program to do and be? A big decision like that needs the input of a lot of people, but you need a process by which you reach a decision, and we do not have that." As another leader suggested, one way to solve this difficulty is to create an advisory committee that will continue the work of the leader without much disruption.

Despite the fact that all the leaders described collegial relationships as integral to the genesis and evolution of their initiatives, they also noted how hard it is to communicate across the growing maze of structures that characterize research universities. Poor communication across departments and initiatives—the fourth category of conflict—is an obstacle that needs a "tenacious administrator" to overcome. Because some interdisciplinary work

occurs without departmental anchors, however, its collegial culture often lacks administrative heft. Although the loosely coupled nature of universities provides space for variously organized programs, it also presents an obstacle to their communication with other units.

When courses or degrees are involved, leaders face special difficulties in coordinating schedules and financial aid. Several leaders, for instance, described the lack of cooperation students received from student services offices. As one director noted, "it takes an enterprising student and a tenacious administrator to make sure these bureaucratic challenges don't discourage students from doing interdisciplinary work."

Some leaders called for more systematic ways to identify potential collaborators. Although many scholars hesitate to increase bureaucracy, several suggested establishing a dean or special committee for interdisciplinary research. Such a person or group would act as "clearing house for these sorts of initiatives" and provide more "institutional memory."

### STRATEGIES TO CONSIDER

The nature of cross-disciplinary initiatives—fragile because they lack the traditional security of departments, yet resilient because they are highly adaptable—is a caution against recommending ways to guide their development across a variety of settings. Of course, these programs need structures to support them. But those structures should help solve problems, not act as bureaucratic fences that create more problems than they were designed to solve. Our previous studies suggest that effective support flows from the intellectual passions of scholars, rather than spinning down from the top in artificial or bureaucratic ways (Chopp, Frost, & Jean, 2001; Frost, Chopp, & Pozorski, 2002; Frost & Jean, 2000, 2003; Frost & Teodorescu, 2000).

This study affirms that view. Our new findings strongly suggest that interdisciplinary initiatives are more successful when intellectual goals shape administrative structures, rather than the other way around. Thus we recommend that institutions nurture such initiatives by:

- Maintaining flexible administrative practices that are easy to use
- Providing seed money and clear information about ways to get the funds
- Reducing the burdens and improving the rewards for scholarship done outside departmental boundaries
- Helping scholars communicate across departments, schools, and initiatives

Concerning flexibility, leaders stressed the importance of solving societal problems, bringing in external funding, increasing prestige, and providing stimulation and satisfaction for faculty; yet we found few examples of flexible practices to advance those gains. We recommend that universities address program needs in specific and particular ways.

For example, wearing “multiple hats” is hard, because it requires one not only to balance many roles across boundaries, but to find the time to make each work. To reduce pressure, universities could adjust reward structures when evaluating such work. More flexible teaching or service requirements could also help when academic questions heat up. Institutional researchers could study the conditions of successful programs at their universities and name points of flexibility that might work in their particular environment.

Concerning resources, universities could provide seed money to promising programs and give ample information about how to pursue those funds. For example, matching departmental resources with modest central support can help faculty seek external funding. A university could evaluate such an investment and place the help where it matters most. But who in a university should be responsible for these decisions and where should they be made? A few years ago, the Emory president moved budget authority from the administrative vice president to the provost, placing academic programs more at the center. Consequently, in addition to the size of the investment, we have learned that who makes that investment matters. Although some faculty still suspect that financial concerns drive the university, having the provost in this role has made academics more central and arrayed other decisions in their support, rather than the other way around.

Concerning time and frustration across boundaries, universities could dedicate specific resources to scholars who lead or wish to lead a cross-disciplinary initiative. To lower the learning curve for new leaders, scholars could learn about each other’s research and identify potential areas for development. Also, universities could invite current or former leaders of initiatives to form advisory committees. These groups could help faculty leaders avoid barriers and sustain precious momentum.

Concerning communication, universities could use specific strategies to help departments, schools, and initiatives communicate, and then help leaders use those strategies. One way is for leaders to help scholars get in touch across fields. We know of some universities that are creating databases that scholars can use to share interests. This is one of several practices our findings support.

### IDEAS TO INVESTIGATE

From the causes and prevention of violence to analyzing the recently mapped human genome, the research missions of all 11 Emory programs are of critical interest to society. By connecting new knowledge to real-world problems that extend beyond traditional fields, the initiatives helped the university become more than the sum of its parts. In the process, the leaders—scholars with a “passionate commitment to the topic”—drew on well-established intellectual ties across the university and beyond. They attracted the money and administrative support they needed to develop the program.

Furthermore, we discovered that the leaders' ability to attract start-up resources seems related to the interconnectedness of *leadership*, *governance*, *collegiality*, *resources*, and *mission*. When a university, medical center, or other type of research organization was at hand, for example, members of those institutions seemed ready to join in. The outward-looking, problem-based missions of the initiatives appear to be a key factor in attracting the funding and intellectual capital that the initiatives need.

Although the missions, activities, administrative practices, and funding strategies of the initiatives vary widely, they share similar conflicts. Some bureaucratic aspects of universities, for example, can reduce the flexibility scholars and programs need to pursue outwardly focused problems and work creatively across fields. Interdisciplinary initiatives benefit scholars, the university, and society; yet these conflicts can constrain the programs and the collegial networks they need to flourish.

Fortunately, a remarkable variety of creative solutions have emerged. These solutions seem to depend more on loosely structured and flexible systems of governance, recognizing and rewarding interdisciplinary work, reducing the burdens of time and frustration one encounters when crossing university boundaries, and facilitating communication and coordination across departments, schools, and initiatives. Such strategies can amplify the spaces for intellectual exchange and scholarly innovation.

This potential suggests that scholars will increase the demand for cross-school initiatives. Such programs not only address some of society's most pressing problems but also help universities increase their definition and distinctiveness. This study represents a first step in exploring factors that influence the development of a rich diversity of initiatives. By bringing to light useful information about such pockets of innovation, this work suggests how similar programs might evolve. To learn more about the characteristics and support of such programs, future research should investigate interdisciplinary research across departments and schools systematically, both at the level of individual universities and across the full range of research institutions.

# APPENDIX

## DESCRIPTION OF CROSS-SCHOOL INTELLECTUAL INITIATIVES STUDIED

<i>Program</i>	<i>Description</i>	<i>Size</i>	<i>Funding</i>	<i>Examples of Connections</i>
African American Studies Program	Split off from Black Studies Program (1971) in 1992; supports research, teaching, and internships related to the experience of descendants of Africans in the U.S.	Large core (17 faculty with joint appointments), 12 affiliated faculty	Arts and sciences dean; central administrative seed money	Center for Non-Violence, local Black Arts Festival, local hospital AIDS project
Center for Behavioral Neuro-Sciences	Since 1999, supports collaborative research, education, and technology transfer about the neuroscience behind social behaviors	Core of 6, with 60 affiliated faculty	Large NSF and other grants; private foundation seed money	Local private medical school, several local state universities
Center for Disease Ecology	Since 2000, supports lectures and conferences in ecological and evolutionary principles related to infectious diseases across the arts and sciences and the health sciences	Small core (4) with 20 affiliated faculty	Arts and sciences college and public health school	Arts and sciences, medicine, public health, Centers for Disease Control
Center for the Study of Health, Culture, and Society	Since 1993, supports graduate research fellowships across the arts and sciences and public health and creates workshops, courses, and seminars about culture and public health	Small core (3), use of joint faculty appointments; graduate students	Provost's office; seed money from multiple internal sources	African Studies, Centers for Disease Control, American Cancer Society, and a local presidential center

Appendix cont.

<i>Program</i>	<i>Description</i>	<i>Size</i>	<i>Funding</i>	<i>Examples of Connections</i>
Russian and East European Studies	Since 1983, sponsors education, lectures, symposia, and workshops for graduate students in law, business, and public health	Small core (3), 10 faculty affiliates	All through arts and sciences college; federal grant at one time	Affiliated faculty in political science, history, law, Russian
Halle Institute for Global Learning	Since 1997, sponsors guest speakers, travel abroad for faculty, research seminars, and a distinguished fellow program fostering internationalization	Small core (1) plus one graduate assistant, 10 in its faculty council	Private gift with seed and continuing additional support from provost's office	Political science, economics, history, anthropology, sociology, business, law, medicine, public health across local universities and governments
The Law and Religion Program	Since 1982, offers joint graduate degrees, conferences, and research programs exploring the religious dimensions of the law and the legal dimensions of religions	Small core (3) plus undergraduate work study student, two faculty volunteers, 8 affiliated	Provost's office, arts and sciences graduate office, law, theology; seed money from provost	Law, religion, theology, ethics center, and a spin-off center for the interdisciplinary study of religion
Psychoanalytic Studies Program	Since 1996, supports conferences, symposia, and a graduate student minor in the history, theory, and application of psychoanalytic thought	Small core (1) with considerable help from arts and sciences graduate students	Began with no money, then department seed money; now arts and sciences graduate program and provost's office	Housed in arts and sciences, collaborates with law and the psychoanalytic program in medicine



Science and Religion Faculty Group	Since 1999, supports discussion groups among scientists, humanists, and social scientists in religion and science (for example, on suffering and healing)	Small core (2), 3 volunteer faculty, with shared administrative support from the program in science and society	Internal from finance office and seed and continuing from the program in science and society	Arts and sciences, religion, theology, medicine
Violence Studies Program	Since 1996, fosters interdisciplinary approach to understanding the causes and representations of violence through conferences, internships, and an undergraduate minor	Small core (3), with 70 affiliated faculty (including two teaching classes that rotate across faculty)	Provost's office (continuing and seed) and arts and sciences college, graduate school, small outside grants	Public health, arts and sciences, injury control, local community, and state government agencies
Center for Injury Control	Jointly sponsored by public health and medicine since 1993, supports research and staff courses in epidemiology and behavioral science aimed at reducing death and injuries from accidents	Small core (4), with help from staff in medicine and public health, and an undergraduate work study student; 10 affiliated faculty	All external from foundation grants, with space provided by public health	World Health Organization, Centers for Disease Control, local state health and human services departments

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