Law and New Governance in
the EU and the US

Edited by

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Preface

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Gender Equity Regimes and the Architecture of Learning

SUSAN STURM

INTRODUCTION

Scholars and practitioners in a variety of regulatory areas have embraced 'new governance' as a promising approach to addressing complex public problems and, in the process, revitalising democracy. Proceeding under different names and with different points of emphasis,1 this approach shares an emphasis on regulation through centrally coordinated local problem solving. Public agencies encourage local institutions to solve problems by examining their own practices in relation to common metrics and comparing themselves to their most successful peers.2 Problem solving operates through direct involvement of affected and responsible individuals.3 Information about performance drives this process. Its production and disclosure enables problems to be identified, performance to be compared, pressure for change to mount and the rules themselves to be revised. Public bodies coordinate, encourage and hold accountable these participatory, data-driven problem-solving processes.4

As a strategic response to particular problems under particular conditions, new governance is uncontroversial. Its claim as an overarching general regulatory theory, however, has provoked questions about its feasibility and

in-depth examination of particular contexts in which practitioners in different institutional locations have actually integrated learning, mobilisation, accountability and institutionalisation into their participatory problem-solving systems, which have in turn been linked across institutional and political domains. This methodology permits theorising from practices that themselves reflect a tacit or sometimes articulated theory of action. It starts with an intervention in a particular context or problem, and follows the web of relationships, processes, and structures that interact to produce or prevent a normatively desirable outcome. The process of identifying experiments that institutionalise ongoing learning and change provides a small but significant response to the most sceptical of the new governance critics. If it is happening, it can happen. It also permits a critical assessment of whether and when new governance operates as intended. Finally, close examination of an ongoing new governance initiative offers an opportunity to observe and theorise about the mechanisms that enable or discourage learning, empowerment, participation and accountability, and the forms of public intervention that foster their development.

Recent public interventions to address workplace inequality provide a particularly ripe area for institutional analysis and comparison. In the United States, the problem of employment discrimination has been the focus of traditional regulatory intervention for the past 40 years. Compliance agencies, such as the Equal Employment Opportunity Commission and the Office of Federal Contracts Compliance Programs in the Department of Labor have occupied centre stage of these public interventions. Recently, a different public approach to the problem has emerged to address women's marginalisation and under-participation in universities, particularly in the sciences. The primary public protagonist in this initiative is not a traditional compliance agency, but is instead the National Science Foundation (NSF), a public agency that is deeply involved in supporting scientific advancement, NSF has used its funding role to foster institutional transformation within universities aimed at increasing the long-term participation of women in the sciences. This initiative exhibits many features central to new governance approaches: self-study, participatory problem solving, experimentation, benchmarking and centralised bodies providing pooling and assessment of bottom-up innovation. At least in some contexts, practitioners seemed to be grappling quite effectively with the questions of learning, mobilisation, accountability and institutionalisation that lie at the frontiers of the new governance debate.

This case study reveals the pivotal role of linkages in making new governance work. Its regulatory design built in the development of problem-solving intermediaries, as both a new institution and a new role. Problem-solving intermediaries link issues, strategies and tools which must be connected to


address complex problems but ordinarily operate independently. These new institutions and roles have, under certain conditions, enabled organisation-al learning, fostered mobilisation and produced accountability that still encourages local experimentation.

The study of gender equity initiatives also offers a comparative dimension. The United States’ domain specific strategy for developing new governance methods to address inequality contrasts with the more ‘constitutional’ strategy, reflected in the European Employment Strategy and Northern Ireland’s recent equality regulation,8 and that some have argued to be inchoate in Article III–118 of the Constitutional Treaty.9 Although the American and European examples each utilise new governance principles, they differ in their scope and institutional design. In the United States, the gender project was developed in a particular context, at the initiation of a non-regulatory public agency acting as a problem-solving intermediary, working in conjunction with scientists, activists and universities. In Europe, the regulatory regime developed through a deliberate, political process of general policy and governmental reform. Although this chapter does not itself undertake a comparison of the US and EU gender projects, it offers a framework for critically assessing the promise of constitutionalism, as compared to domain specific experimentation, as a developmental strategy for new governance.

This chapter first extrapolates from new governance critiques to generate an analytical framework for empirical investigation and theory building. It then describes and analyses the linkage strategies used in the NSF gender-science initiative to meet the challenges of promoting organisational learning, sustaining mobilisation and providing accountability while facilitating problem solving. Finally, it considers the implications of this contextual analysis for the relationship of new governance and constitutionalism.

THEORY ELABORATION FROM NEW GOVERNANCE CRITIQUES

The first generation of new governance work has provoked scepticism about its legitimacy and feasibility. This section develops this scepticism as an analytical framework for empirical investigation and theory development.

How does new governance enable learning and benchmarking?

New governance depends on the capacity for ongoing learning at the individual and organisational level. It proceeds through a continual process of identifying problems, generating solutions, and monitoring practices and outcomes. Error-identification requires an organisation set up to enable those who experience everyday operations to ‘identify shortcomings and opportunities and to assess alternatives and make the feasible ones work’.10 Benchmarking involves ‘an exacting survey of current and promising products and processes which identifies those products and processes superior to those the company presently uses, yet are within its capacity to emulate and eventually surpass’.11 Each of these processes presumes the capacity, opportunity, and incentive to gather, analyse, and act upon information about shortcomings in current practice. Participants must either come to the table with these skills and resources in hand or develop them as part of the problem-solving process. Problems stemming from structural arrangements, such as how decisions are made, require the capacity to identify and question underlying organisational norms.

The scholarly literature shows that many organisational environments discourage this form of institutional learning.12 Many organisations are not set up to prompt critical assessment of day-to-day performance. Employees operate within organisational routines, which limit their perception of problems. The triggers for detecting and acting on problems do not exist in many organisations. This may be particularly true for public and non-profit organisations, which do not participate in market competition. These organisations may also have out-dated or rudimentary data systems, and lack basic knowledge about their performance. As a result, many problems go unnoticed or unreported. This organisational blindness intensifies when the organisational culture devalues the importance of the problem. Communication channels up the organisational hierarchy further muddy and filter the information flow.13 Often, information revealing problems is ‘delinked’ from decision makers in a position to institute change. This is both because those with the information about problems do not participate in decision making, and because decision makers lack regular access to those who know where the problems occur. Organisations tend to decouple day-to-day activities from goals or knowledge generated outside those routines.14

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13 See generally Richard H Hall, Organisations: Structures, Processes, and Outcomes, 9th edn (Prentiss Hall, 2004).
These observations prompt questions about whether new governance problem-solving processes can work as envisioned. If new governance simply layers problem-solving processes on top of static organisational processes, it is unlikely to provoke meaningful organisational learning or change. If, however, it increases the capacity and incentives for learning, and ‘couples’ learning and action, transformation seems more plausible. The capacity for organisational learning is not itself static or given; interventions can enable and motivate learning within and across organisational domains.

Thus, an important area for future inquiry involves whether and how new governance methods can develop the infrastructure and culture needed to produce effective collaborative problem solving. What triggers problem identification and analysis, particularly if market or competitive pressures do not produce these incentives or cultures? What processes, roles and structures enable learning to take place across domains outside routine communication and incentive systems? What strategies enable knowledge generated through deliberative problem solving to influence pivotal decisions and routines? And what sustains these intentionally disruptive processes over time, particularly when they cut against the grain of routines or embedded values they are intended to revise?

New institutionalist and networking scholarship offers one promising direction for this inquiry. This scholarship situates organisations within the institutional environments in which they operate and that influence their practices. An organisational field could include the labour markets supplying workers, regular collaborators and competitors, professional networks, advocacy groups, funders and public regulators. Much of the new institutionalism scholarship has emphasised the constraints these organisational fields impose ‘by forcing units in a population to resemble other units that face similar constraints’. But this scholarship also suggests that organisational fields other than markets can also prompt for organisations to question and change current practice in light of peers’ successes. The question is whether and how new governance initiatives can harness the normative potential of particular environmental fields. An important focus for the next phase of new governance inquiry is documenting the practice fields shaping organisations’ normative commitments, incentive structures and practice routines, the role of various institutional fields in encouraging or discouraging public problem solving, and how regulatory approaches can be linked to bootstrap the regulatory potential in existing organisational fields.

Finally, organisational scholarship has identified the role of professionals and other norm intermediaries as key carriers of ideas across organisational fields. They carry ideas as they move among organisations and through participation in professional networks: conferences, workshops etc. This emphasis on identifying mediating roles played by repeat players opens up another fruitful area of inquiry about the mechanisms for transmitting usable knowledge and encouraging benchmarking across practice domains.

How does new governance mobilise effective problem solving and change?

New governance methods involve high energy, resource intensive, and sustained attention. Effective problem solving requires the capacity to determine the impact of current practices on affected individuals, and continually to renew the commitment to addressing those problems. The resulting destabilisation unsettles order and certainty, and thus cut against the grain of organisational tendencies toward stasis. Remediating problems of public significance—such as discrimination, pollution, police abuse or educational inadequacy—usually requires reallocating priorities and power. These moves often trigger resistance or backlash. Moreover, the conditions that support destabilisation—acknowledged crisis, innovative leadership, high growth etc.—may not last. New governance approaches must be able to provide the architecture to sustain its processes and substantive achievements when these triggering conditions change, or to build in a process of renewing the problem-solving motivation and capacity.

Grass roots participation and transformative leadership can play a significant role in overcoming these tendencies to maintain the status quo. By involving and empowering those with an interest in change—both

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15 Organisational theorists and sociologists refer to these patterned interactions as scripts: observable, recurrent activities and patterns of interaction characteristic of a particular setting. Stephen R. Barley and Pamela Tolbert, ‘Institutionalization and Structuration: Studying the Links between Action and Institution’ (1997) 18 Organization Studies 93, 98. See also James G March and Johan P Olsen, Rediscovering Institutions: The Organizational Basis of Politics (Free Press, 1989).


18 Walter W Powell, ‘Expanding the Scope of Institutional Analysis’ in Powell and DiMaggio, n 16 above.


reform-minded insiders with direct decision-making responsibility and outsiders who are directly affected by the problematic conditions—new governance, at least in theory, builds in the mobilisation needed to sustain ongoing change. Grass roots participation is important for several reasons. First, it provides knowledge uniquely in the hands of those directly affected by the problems under consideration. These affected actors live in the convergence of multiple governance systems and experience the output of intersecting systems. They know how systems that look good on paper break down in practice, information that is essential for the root cause inquiry that is so important to effective problem solving.

This direct connection to the relevant problems gives rise to a second significant role for countervailing power in new governance regimes: applying pressure to question the adequacy of the status quo and to take action to address identified problems. The relevant outsiders occupy a position that links their fate directly to the values at stake in the regulatory project. Their identity and experience in that affected position, if mobilised, connects them to the role of asking insistent questions and pressing for change needed to address persistent problems. Outsiders also, by definition, do not occupy formal positions of power, and thus are less subject to the pressures of order maintenance and power preservation that militate against destabilising the status quo.

Finally, outsider participation can provide legitimacy to new governance regimes by giving those affected by decisions a voice in determining how those problems will be addressed. This participation value lies at the core of democratic principle and fair process. Citizen participation is particularly important in addressing complex problems because most problems are not exclusively technical; they necessarily involve prioritising and choosing among values under conditions of scarce resources. For that reason, ongoing participation by those affected is needed if they are to have influence when value choices are actually made.

Grass roots participation in new governance processes also can provide a means of building a cadre of transformative leaders. These processes place change agents at the table with those in formal leadership positions, and involve them in decision making. This ongoing access multiplies the opportunities to exercise informal leadership. This process expands the pool of transformative leaders able to assume formal leadership roles.

However, sceptics have questioned the legitimacy and feasibility of grass roots participation in new governance deliberations. The legitimacy questions stem from the potential lack of representativeness and accountability of those who directly participate. Some deliberative processes operate outside formal democratic institutions, and may lack methods of accountability connecting direct participants to the concerns and views of the group they represent, or providing feedback to and from those direct participants. Unless accountability concerns are built into the process of selecting and working with community members, participants may not reflect the perspectives of the larger group, and may not be perceived as legitimate proxies for the views of their 'constituents'.

The feasibility questions stem from differences in power and capacity among the deliberative community. Disempowered groups may lack the resources, skills and technical knowledge to participate effectively in problem solving. They may also distrust deliberative processes that are set up and run by management, and thus or filter crucial information. Time constraints, experiences of failure in the past and concerns about the risks of coming forward often discourage people from active participation. New governance scholarship is at best vague about the processes for developing a group's capacity to engage effectively and enabling them to participate as 'equals' in the deliberative process. This literature has yet to grapple fully with the challenge of constructing effective processes that also enable meaningful participation by disempowered groups, and that do not simply privilege experts. What if the capacity to participate effectively does not exist at the outset or emerge in the course of participatory problem solving? Is far-reaching social equity both a goal and a precondition for its success? If so, then equality is necessary for new governance to work in the first place. Can new governance processes themselves generate occasions and capacity for mobilisation necessary to shape substantive agendas and to legitimate and hold accountable the problem-solving process? How can countervailing power simultaneously be harnessed through participation in the new governance processes and yet remain sufficiently 'outside' to perform its 'countervailing' function?

How does new governance provide centralised accountability without undermining local experimentation?

A third constellation of questions involves concerns about accountability. Normatively motivated change must be internalised within a particular

26 Joshua Cohen and Joel Rogers, 'Power and Reason' in Fung and Wright, n 24 above, at 248–53.
Public regulatory agencies face serious challenges in obtaining necessary information, building cooperative relationships, and developing communities of practice among peer institutions. Local organisations may not produce reliable information, particularly about the cultural and institutional dynamics that prevent change. Centralised organisations may lack sufficient cultural fluency to decipher the adequacy and reliability of the information they do receive. They may also face resistance to any external oversight of local decision making. To facilitate a learning community, these institutions must be viewed as legitimate conveners of peer interaction. Public interventions justified by failure may thwart the necessary openness and engagement for collaborative problem solving to work. If external accountability standards are imposed on organisations with inadequate, systems with low internal accountability they could discourage experimentation and produce perverse incentives and symbolic compliance. Will public institutions, particularly the lower courts, actually assess the adequacy of problem-solving processes, or will they defer to the decisions of the institutions they are supposed to monitor, thereby legitimating purely symbolic processes? Compliance continues to play a much needed role in dislodging resistant actors who are violating basic public norms. But regulatory agencies have internalised a compliance culture, which complicates their capacity to operate effectively as facilitators of public problem solving.

Public agencies also face considerable obstacles in developing common performance metrics that will simultaneously prompt local experimentation and provide accountability. New governance's potential as a form of public normative elaboration hinges on the efficacy of these performance metrics. It is crucial that they measure what is actually valued, and give information revealing where the problems lie and why they persist. But the relationship of these metrics to desired practice and local innovation often remains ambiguous at best. One concern is that the aspects of performance most amenable to quantitative metrics may not be those most important to learning, but will nonetheless assume priority simply because they are measured. Quantitative metrics often point to where problems are occurring, but not why they are occurring. In a context of mobilised public engagement and ongoing problem solving, these measures can prompt further investigation into the root causes. Without the infrastructure and activism needed to

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28 See sources cited in n 2 above.
29 See sources cited in n 2 above.
33 This is the central point of Richard Elmore's friendly critique of Liebman and Sabel's defence of the No Child Left Behind Act as an example of experimentalist regulation. See Richard Elmore, 'Details, Details, Details' (2003) New York University Review of Law and Social Change 315.
34 This is a core concern levelled at the structural approach to second generation employment discrimination by new institutionalists. See, eg, Edelman et al., n 31 above, Krawiec, n 32 above.
contextualise quantitative metrics so that they trigger self-diagnosis and remediation, however, performance standards can operate like rigid rules. The localities most in need of improvement may be most vulnerable to this dynamic.

These learning, mobilisation and accountability questions highlight where further theoretical and empirical work is needed to develop new governance's potential—and to understand its limits—as a regulatory approach. They also provide concrete direction for empirical investigation by identifying the areas where careful examination and analysis will push current boundaries in our understanding. The chapter now applies this analytical framework to a case study of NSF's gender equity initiative in academic science.

THE GENDER PROBLEM IN ACADEMIC SCIENCE: ESTABLISHING THE NEED FOR A MULTI-DIMENSIONAL APPROACH

Hundreds of studies have documented the fact of women's under-participation in university faculties.37

Despite advances made in the proportion of women choosing to pursue science and engineering careers, women continue to be significantly underrepresented in almost all science and engineering fields, constituting only approximately 22% of the science and engineering workforce at large, and less than 20% of science and engineering faculty in 4-year colleges and universities.38

Until recently, public interventions have produced reports, discrete programmes and new institutional positions but little long-lasting change or generalised impact. As a first step in assessing new initiatives, it is important to understand why gender inequality has proven so difficult to remedy through conventional administrative, judicial and political interventions.

The dynamics contributing to faculty women's under-participation are complex and multi-dimensional, for a variety of reasons. First, gender inequity in universities takes variable forms, ranging from the structural to the cognitive to the interactive to the intentional.39 Alongside these more subtle and structural forms of gender bias, blatant forms of exclusion or unequal treatment, of the type that typified women's experience in the late 1960's, does continue to occur in some departments and universities.40 These differences in approach require diverse strategies to reach the relevant actors, incentives, and dynamics.

Second, the dynamics producing gender bias and under-participation operate on multiple levels. Decisions reproducing gender bias operate at the level of the organisation, but are also sustained by broader cultural and practice fields. Women are trained in and recruited from different institutions. Departmental decision makers also interact with their counterparts in other institutions, as well as in professional networks that both cooperate and compete in field development. Even within organisations, gender bias involves interactions across multiple levels of university interaction. Practices implicating women's participation are both highly decentralised and interconnected with those of other departments and the central university.41 The decisions and practices reproducing marginalisation are a product of culture.42 Transforming these patterns requires multi-level intervention at the level of underlying assumptions, institutional behaviours, processes and organisational fields.

Third, the conduct contributing to women's under-participation is diffuse in time, place and manner. Large gaps in current status result from the accumulation of small differences.43 These differences arise in a wide range of decisions that shape the trajectory of a faculty member's career: providing mentorship, defining the applicant pool, evaluating candidates, building research teams, constructing informal professional networks, inviting speakers, assigning teaching and committee responsibilities, negotiating salaries, allocating resources and selecting departmental and university leadership. Many people and institutions may participate in the production of these small treatment differentials. They can occur within a particular department, within the larger university or across a research field. A response

38 NSF ADVANCE, Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers, Program Solicitation NSF 02–121 (2002). At MIT, for example, the small number of women faculty in the School of Science (15 tenured women vs 197 tenured men in 1994) had remained unchanged for at least 10 and possibly 20 years. Reports of the Committees on the Status of Women Faculty at MIT, <http://web.mit.edu/faculty/reports/> (March 2002) at 3.
directed only at the problem's visible manifestation will not necessarily reach the series of decision points that combine to produce persistent inequality.

Fourth, gender bias is difficult to detect at the level of the individual, except in its most egregious form. Because it is often automatic or unconscious, those involved in it do not necessarily know of their bias. Gender bias often interacts with other motivations and factors; it is only through observing patterns over time that gender's role becomes visible. Those who experience bias may not themselves understand their experiences in relation to gender. Even if they do, they may see their experience as unusual or unique, or simply not worth the risk or trouble that might accompany an individual complaint. They may also resist claiming gender as a public identity or explanation for their status.

Fifth, gender bias is linked with and yet distinct from other problems with governance, decision making, participation and bias. The participation of people of colour on faculties remains extremely low, for both reasons common to gender marginalisation and for reasons that are distinctive to the dynamics of racial and ethnic inequality. Faculty hiring, promotion and governance practices can be problematic and unfair in ways that may be experienced more acutely by women but that have far broader effects. Gender bias is integrated with and often results from inadequate organisational systems and conflict resolution processes. Some of the dynamics affecting women's participation also affect universities' capacity to adapt to other complex problems, such as the rigidity of disciplines and their resistance to interdisciplinarity and collaborative scholarship, and their undervaluation of teaching.

Finally, gender equity initiatives are deeply interconnected with and dependent upon other governance and regulatory systems both inside and outside the university. They depend upon the participation of university leaders who have broader responsibility for the governance of their domains, and who treat gender equity as one of a much larger set of values and concerns. Those involved in gender advocacy are not focused exclusively on questions of faculty participation, and are also involved in addressing broader constituencies both within the university environment and in the larger social environment. Their relationships with broader professional, regulatory and advocacy constituencies affect their approach to gender equity issues arising within the university context.44


Gender bias is thus a multi-dimensional problem. Its remediation requires operating both deeply within particular contexts (to get at the micro-level and cumulative interactions) and broadly across contexts (to enable the reworking of the environmental conditions and incentives that shape internal practices). Multi-dimensional problems require multi-dimensional solutions. Particular programmes that work in a particular context must be sustained over time and connected with other programmes that influence the overall gender dynamics. This requires a sustained institutional change strategy that bridges the different interventions needed to change culture. The next section introduces the NSF ADVANCE initiative as a form of public problem solving doing just that.

INSTITUTIONAL INTERMEDIARIES: A NEW PUBLIC APPROACH TO GENDER EQUITY

The National Science Foundation's ADVANCE exemplifies a new approach to the goal of increasing the participation and advancement of women in academic science and engineering careers.48 This section describes NSF's role as an institutional intermediary enabling remediation of complex problems cutting across boundaries. It also documents the development of problem-solving intermediaries within the University of Michigan's ADVANCE Program which, like many other ADVANCE institutions, mirrors NSF's bridge building strategy.

NSF as national institutional intermediary

NSF is an independent federal agency that 'promotes and advances scientific progress in the United States by competitively awarding grants and cooperative agreements for research and education in the sciences, mathematics and engineering'.49 A major supporter of academic science, the agency resists the label of regulator, notwithstanding its considerable impact on the

44 The National Science Foundation is an independent federal agency created by the National Science to 'promote the progress of science' and 'advance the national health, prosperity and welfare' (Foundation Act of 1950, as amended, 42 USC §§ 1861–73). NSF funds research and education through grants and cooperative agreements with universities and colleges, educational systems, business, informal science associations and other research organizations. For a description of NSF, see http://www.nsf.gov/od/lpa/news/publicat/nsf04009/intro/ start.htm.

48 ADVANCE, Increasing the Participation and Advancement of Women in Academic Science and Engineering Careers, Program Solicitation NSF 05-584<http://www.nsf.gov/pubs/2005/nsf05584/nsf05584.pdf>. 'With an annual budget of about $5.5 billion, we are the funding source for approximately 20 percent of all federally supported basic research conducted by America's colleges and universities. In many fields such as mathematics, computer science and the social sciences, NSF is the major source of federal backing,'<http://www.nsf.gov/about/glance.jsp>.
practices of the universities it funds. NSF operates primarily as a grant-making rather than a compliance agency, although as such it does have responsibilities for monitoring compliance with legal requirements concerning diversity. The agency has significant and ongoing involvement in the core work of the organisations it seeks to influence. NSF's goal is 'to support the people, ideas and tools that together make discovery possible'.

NSF's involvement with gender issues stems from its general capacity-building relationship with universities. From its inception, NSF has emphasised workforce development as integral to its goal of supporting scientific discovery and advancement. NSF uses scientific inquiry as the overarching methodology for all of its work, including its project to advance women's participation. Thus, neither gender equity nor compliance structures NSF's overall involvement with universities. NSF's gender agenda grows out of its larger commitment to advancing science through developing the workforce. Through its grant-making power, NSF uses its access, resources and legitimacy to promote environments in which women and men will succeed as scientists.

NSF's role is in part a normative one. NSF puts gender, as well as race, on the table as a legitimate value integrally connected to the larger goal of advancing science. It legitimises gender as a normative enterprise through science's language and method, as well as its own reputation for rigor and merit-based decision making. NSF has achieved the status of a brand signifying merit and organisational excellence. It has harnessed its reputation for rigour and scientific method to legitimating gender equity as a value.

High quality research establishes the need to address gender under-participation as a strategic, as well as a moral imperative. Although a history of deliberate gender exclusion certainly characterises many universities, NSF articulates forward-looking goals premised on how current conditions perpetuate under-participation and why eliminating these barriers will advance scientific priorities.

NSF's role is also distinctive because it has focused on creating institutional environments that support women's advancement, rather than focusing solely on advancing the careers of individual women. NSF developed this strategy through learning from its own failures, a methodology that it subsequently built into the ADVANCE Program. Until the late 1990's NSF encouraged women's increased participation primarily through individual support helping women with grants at pivotal stages of their careers. Prompted in part by the MIT report, NSF undertook an analysis of its gender programmes and determined that its current strategy was not making a dent in the problem.

We noticed that people getting grants renewed and renewed. We had a cacophony of programs for women. We were not getting any critical mass. We were having a small impact.

NSF concluded that it would be difficult to enable women to advance without changing the institutional environments that shaped their interests and opportunities.

This analysis led NSF to adopt ADVANCE—a foundation-wide effort to increase the participation and advancement of women in academic science and engineering careers. NSF announced that it would fund initiatives to change university culture through its 'Institutional Transformation Awards'. These awards support innovative and comprehensive programmes for institution-wide change. NSF ADVANCE does not prescribe particular programmes, strategies, or outcomes. Instead it promotes a methodology for strategically connecting knowledge and action to address identified problems. NSF does this through supporting strategies, institutions and roles that enable informed problem solving to occur at the point when it can influence decision making.

The NSF builds institutional analysis and knowledge-sharing into the core of its gender initiative, based on the premise that gender under-participation must be understood if it is to be effectively addressed. ADVANCE's guidelines established clear expectations that grantees will develop programmes, priorities and policy through systematic inquiry. This approach includes inquiry (1) demographic studies about the status of women's participation at the institution, required both by base line studies at the outset of the grant term and ongoing data according to 12

51 Ibid.
52 The argument proceeds as follows: Excellence in discovery and innovation in science and engineering derives from an ample and well-educated workforce. Global competition is intensifying such that the United States may not be able to rely on the international labour market to fill unmet skill needs. Domestic talent is likely to decline unless the Nation intervenes to improve the success of scientists from all demographic groups, especially those that have been underrepresented in scientific and engineering careers. That means taking steps to increase the successful participation of women and people of colour. National Science Board, The Science and Engineering Workforce: Realizing America's Potential (14 Aug 2003) available at <http://www.nsf.gov/nsb/documents/2003/nsb0369/nsb0369.pdf>.
53 The 'NSF brand' represents merit-reviewed excellence; openness and inclusiveness; inspiring, pace-setting research at the constantly-changing frontier; and a commitment to a free marketplace of ideas that spans ethnic, social, economic and geographic boundaries. The Foundation strives to be influential and agile, serving as a creative catalyst for change. Finally, the 'NSF brand' represents accountability, building and maintaining the public trust. (The Promotion of Excellence in Research: the Experience of the National Science Foundation', remarks of Joseph Bordogna, available at <http://www.nsf.gov/news/speeches/bordogna05/b050408_151205africa_en.htm>).
Collaboration agreements operate like a constitution for the interactions between NSF and its grantees, and among the grantees themselves. They define reciprocal responsibilities for both NSF and those it funds. NSF and grantees commit to shared goals and mutual responsibilities for information gathering, standard setting, evaluation and monitoring, and sharing knowledge with the field. Grantees agree to set up the institutional infrastructure needed to accomplish their proposed programmes, gather necessary data, evaluate their progress, work cooperatively with evaluators and monitors, work closely with NSF and other grantees, and disseminate their results and best practices. NSF assumes 'major responsibility for providing general oversight and monitoring to help assure effective performance and administration, as well as coordination of all the ADVANCE Institutional Transformation programmes as part of an initiative designed to achieve national science and engineering workforce goals'. These responsibilities include holding ADVANCE meetings, coordinating pertinent information regularly among grantees, offering technical advice and guidance and providing feedback to awardees based on reports, periodic site visits and 'the many contacts and interchanges involved in the monitoring'.

NSF's method of developing quantitative indicators to establish the basis for data gathering and evaluation illustrates its collaborative stance. The agency views quantitative indicators as necessary to track progress, enable comparability across institutions and signal problem areas warranting greater attention. It was important from the outset that these indicators reflect the best available understanding of the types of decisions that needed to be tracked, as well as the realistic possibilities of obtaining the data. So, NSF brought the grantees together to brainstorm with NSF staff about what those measures should be. The group then had to justify to NSF programme staff the indicators thus identified. NSF and grantees continue to think about revising these indicators, and one of the grantees has undertaken a major research project, with NSF support and broad grantee participation, to refine common indicators that enable comparability across institutions and also enable tailoring to specific context.

Programme officers are also in a position to work through problems and issues that arise over the course of the grant. This enables a working relationship to develop. Many grantees communicate regularly with the NSF programme officer and staff, and rely on NSF to help them work through difficult problems or to enlist additional support. Programme staff are themselves bound by the ethic of data-based evaluation. Both NSF and grantees are subject to outside review and are accountable to NSF oversight bodies. This provides the framework to develop a working relationship within the context of accountability, which in turn provides a context permitting more formal evaluation without necessarily destroying the trust relationship needed for future problem solving.

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55 The following NSF guidelines for data collection shall serve as the model for annual data collection and reporting for annual reports of progress for year 2, 3, and 4 of the award:
Number and percent of women faculty in science/engineering by department
Number and percent of women in tenure-line positions by rank and department
Tenure promotion outcome by gender
Years in rank by gender
Time at institution and Attrition by gender
Number of women in S&E who are in non-tenure-track positions (teaching and research)
Number and percent of women scientists and engineers in administrative positions
Number and percent of women S&E faculty in endowed/named chairs
Number and percent of women S&E faculty on promotion and tenure committees
Salary of S&E faculty by gender (controlling for department, rank, and years in rank)
Space allocation of S&E faculty by gender (with additional controls such as dept., etc.): baseline and year 5
Start-up packages of newly hired S&E faculty by gender (with additional controls such as field/department, rank, etc.)

56 ADVANCE, Program Solicitation NSF 05-584, n 49 above.
58 Draft Collaboration Agreement.
Capacity building

Unlike the typical regulatory relationship, universities seek out contact with NSF ADVANCE. This is because NSF brings concrete benefits to the table in the form of resources, expertise and legitimacy. NSF's monitoring role is linked to capacity building: developing adequate knowledge, incentives and institutional infrastructure so that universities can tackle the difficult problem of increasing women's participation. This capacity-building emphasis differs from a compliance orientation, which focuses on evaluating whether current practices comply with affirmative action and anti-discrimination requirements. A capacity-building approach treats data gathering and monitoring as a form of learning. As with any complex problem warranting NSF's attention, learning is needed to understand and address gender equity.

NSF focuses explicitly on building the capacity of universities to understand and address gender under-participation. Grantees must develop the organisational infrastructure needed to implement the grant as part of the approval process. They also commit to investing institutional resources to developing the infrastructure to sustain these projects over the long run. This requirement prompts change even within institutions that do not receive funding. Unsuccessful grantees report that participating in the application process itself jump-started a change process within the university. Grantees also agree to participate in a learning community consisting of other grantees as well as interested non-grantees who participate in meetings, web exchanges and networks. They commit to maintaining a public website as part of a 'dissemination mechanism' and participate in reverse site visits and grantee meetings. NSF encourages grantees to develop partnerships with industry, government, professional societies and other not-for-profit organisations.

This capacity-building orientation affects the meaning of failure to both NSF and to its grantees. Failures and errors serve a positive role. They provide the basis for obtaining a grant in the first place, by identifying baseline conditions justifying the grant award. They produce information about where the system is failing. They also provide the necessary trigger for action and for increasing support to take that action. Disclosing problems does not increase the risk of being targeted for sanctions. It instead identifies the locations where additional knowledge, resources and attention are needed. So, for example, NSF's third year review of the University of Michigan found considerable progress in hiring, but high attrition rates of senior faculty which undercut the impact of this progress. NSF's response was not to threaten sanctions but instead to focus attention on why people leave and how the programme needed to expand its focus to track and respond proactively to these challenges. This response prompted increased support and encouragement from NSF. The university's capacity to learn from failure is itself a sign of success. This 'failure theory of success' reduces the risk and increases the rewards associated with identifying problems. The prospect of benefiting from data gathering and monitoring increases the willingness to gather information necessary to identify problems and to share that information with NSF. This is in contrast to a compliance framework, where failure prompts increased monitoring or sanctions and thus discourages genuine self-evaluation.

The capacity building orientation also provides NSF with a richer, more varied range of incentives with which to influence conduct. NSF provides substantial resources, expertise and contacts to enable institutions to address the problem of women's under-participation. NSF's role in developing data-gathering capacity is one example:

Principal investigators knew they'd be asking for data that would be difficult for them to get- especially given that some are people who are outside the kind of information they need (faculty asking for tenure data, etc.). NSF needed to back up their requirements with some kind of ongoing relationship. The bigger, more systemic programs at NSF are all done this way.

In addition, NSF provides expertise and access to the most current tools available to address gender in science, including policies, programmes, strategies, research analyses and protocols. NSF programme officers know the people in the field who know the most about particular issues, and provide grantees with access to those experts. This wide array of tools creates strong incentives for universities to interact with NSF. It also provides NSF with flexibility and variation in its use of incentives and accountability. A 4 million dollar grant certainly provides universities with considerable incentive to open up lines of communication and work closely with the agency. NSF monitors how the money is spent and whether grantees are fulfilling the commitments made at the outset of the grant relationship. Departure from the commitments in the cooperative agreement must receive written approval from the NSF programme officer. NSF also requires outside review. This monitoring role brings with it the possibility of holding back funds if these commitments are not honoured. Information gathering is thus about improving 'knowledge people, and tools' generally and gender inclusiveness particularly.

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69 See Sabel, n 10 above.
70 ADVANCE: FAQ's for Institutional Transformation Proposals, NSF 02-126, 1. ADVANCE: Program Solicitation NSF 03-584, n 49 above, at 16. With respect to the identity of 'project partners', the Program Solicitation mentioned that 'partnerships involving industry, government, professional societies and other not-for-profit organizations are encouraged but not required'. ADVANCE: Program Solicitation NSF 03-584, n 49 above, at 4.
71 Interview with NSF Program Director, 17 March 2004.
Leveraging pre-existing networks and practice communities

The question remains, does all of this capacity and relationship building with particular institutions advance the field more generally? How does NSF affect the many institutions that unsuccessfully apply for funding or do not even apply? The answer lies with NSF’s location within a thick network of pre-existing relationships among universities. Universities interact regularly with each other completely apart from NSF’s role. They compete with each other for students, faculty, funding and status. They cooperate with each other to share research, knowledge and strategies. They are part of varied professional and disciplinary networks that regularly meet and share research and strategies. Universities already have incentives to pay attention to the practices and outcomes of other universities. They also meet regularly in the course of their ongoing work.

NSF piggybacks on these pre-existing competitive and cooperative relationships. Apart from its gender role, NSF is located in the middle of these communities of practice. It is a ‘central clearing house for the collection, interpretation and analysis of data on scientific and technical resources in the United States’.

It participates in these professional networks, and supports many of their activities. Universities thus pay attention to the activities of other NSF grantees because they cannot afford not to keep up with their competitors. So, if the University of Michigan outcompetes Stanford in recruiting top flight scientists who happen to be women, Stanford sits up and takes notice. Universities also pay attention because NSF stands for quality and rigour. It regularly sets and then revises standards of practice through its grant-making activities. Its ADVANCE project simply leverages that role.

By leveraging pre-existing relationships, NSF can thus have an impact far beyond the institutions it actually funds. The information disseminated about what works and what does not work has a natural audience of highly attentive consumers with independent motivation to learn from and outdo each other. NSF also has developed collaborative relationships with other institutional intermediaries that use and support ADVANCE’s work.

This model of leveraging relationships is mirrored in ADVANCE’s approach to grant-making. Grant applicants also are required to create an infrastructure that builds partnerships among existing institutions and individuals with expertise, resources and leadership that could be harnessed to ADVANCE’s work. It encourages grantees to use inter-departmental and professional networks within particular universities to create pressure for change. Departments and fields also cooperate and compete within universities. ADVANCE encourages development of departmental incentives to take gender participation seriously and to learn from and try to improve upon the efforts of peer departments.

Many other regulatory agencies require information production and disclosure in the context of monitoring compliance. But NSF ADVANCE has developed a strategy that, when implemented, overcomes the major regulatory contradictions that have limited the impact of information disclosure and monitoring. ADVANCE has been able to get inside universities to obtain information about where and why problems are occurring and what can be done about them. It has been able to bring different actors to the table to collaborate around difficult problems. It has developed considerable public knowledge about causes and potential strategic responses to gender bias. It has forged a learning community among universities, one that produces both cooperation and competition driving institutional change. It has introduced incentives that profoundly affect how institutions make decisions, and implemented a system of accountability that seems to keep universities at the table as engaged participants.

The role of linkages and pivot points

NSF represents a different kind of governmental strategy for promoting gender equity than the usual regulatory agency. Two key concepts characterize ADVANCE’s institutional intermediation approach: linkages and pivot points.

Individual and institutional bridge builders bring together issues, actors, knowledge and incentives around a common problem. These linkages are both substantive and strategic. Substantive linkages connect problems sharing common goals, causes or remedies. Bringing issues together for consideration changes the understanding of each issue and enables identification of common causes and remedies. Linkages also connect actors who operate independently in relation to the problem but whose actions are in fact interdependent. This interdependence may be knowledge based. The information needed to understand the problem and identify solutions may be dispersed among different actors who do not ordinarily share information. Institutional intermediaries create new information flows bridging these knowledge gaps. They also generate opportunities to act on available knowledge, and bringing usable information to those in a position to act. Strategic linkages leverage incentives and tools from one domain to another, thus increasing the tools for motivating change. Treating issues together enhances the knowledge, incentives or collaboration needed to address each. Either the actions of one affect the success of the other or certain steps require coordination of actors who otherwise lack opportunities or incentives for joint action.

Institutional intermediaries forge linkages through their attributes as insider-outsiders, their organisational position requiring them to interact regularly with very different types of stakeholders, and their hybrid, problem-solving strategies. These linkages occur at strategic locations or pivot


64 For a helpful analysis of the role of linkages in the international law context, see David W. Leebron, 'Linkages' (2002) 96 American Journal of International Law 5.
positions will be identified, and, if selected for offers, recruited, retained, and promoted at the University of Michigan. The committee works with departments by meeting with chairs, faculty search committees, and other departmental leaders involved with recruitment and retention.68

Less discussed but perhaps even more significant, Michigan's ADVANCE grant institutionalised a structure that, from the outset, placed gender equity experts at the table with high-level university administrators and gender equity advocates. The overarching institutional change strategy harnesses the knowledge and social capital of individuals and institutions with a track record for effective problem solving. Michigan ADVANCE uses its resources to support collaborations among advocates, experts and governance actors, and to locate those collaborations at crucial decision points such as faculty search processes and leadership development and selection. It provides change agents with the information, networks and resources to maximise their legitimacy and impact. The role of individual and institutional problem-solving intermediaries as catalysts for change is pivotal.

It is important to note the Michigan ADVANCE operates along side and, to a limited extent, in collaboration with compliance approaches. Claims involving serious discrimination, particularly sexual harassment, are outside the purview of ADVANCE and are addressed through compliance actors, including the General Counsel and the Office of Institutional Equity. The Affirmative Action office continues to process discrimination complaints and bears responsibility for government reporting.69 The General Counsel reviews publications, reports and policies produced through ADVANCE for their compliance with prevailing law. The Office of Institutional Equity and Human Resources collaborate to a limited extent with ADVANCE, and have incorporated successful ADVANCE initiatives into University-wide policy and practice. To a limited extent, compliance and ADVANCE actors have worked together when their functions overlap. Thus, problem-solving intermediation does not supplant the role of compliance in addressing serious discrimination.

Although Michigan has just completed year three of a five year grant, various quantitative and qualitative measures indicate that the ADVANCE strategies have had positive effects for women scientists and for their departments. These effects are seen in the form of hiring and demographic shifts; process, policy and role changes; and increased awareness, understanding and commitment at multiple levels of the institution. ADVANCE reports 'significant progress regarding the recruitment of women scientists...''

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65 See Sturm, n 2 above, at 523; William H Simon, 'Toyoda Jurisprudence' in this volume (Ch 3).
66 <http://www.umich.edu/~advproj/about.html>.
67 <http://sitemaker.umich.edu/advance/STRAIDE>.
68 Interview with Director of Office of Institutional Equity.
and engineers at the University of Michigan. Thirteen per cent of new hires in the sciences and engineering were women in 2001 and 39 per cent were women in 2004. As a proportion of all science and engineering tenure track offers, 15 per cent of offers went to women in 2001 and 41 per cent in 2004. An NSF review panel of six external auditors reported an increased hiring of women scientists and engineers in a number of departments, with some hiring women for the first time in many years. The result is an increase in the number of departments moving from ‘token’ representation of women (defined as less than 18 per cent of tenure track faculty) to ‘minority’ representation (18–36 per cent), and the NSF review panel noted that this shift ‘may be of significant impact in improving the climate for women in those departments’.

The NSF site visit auditors found multi-level support, accompanied by the programmatic strategies of ADVANCE, has had ‘transformative’ effects:

Throughout our interviews with programme participants we heard stories of transformation. Senior male faculty reported a complete change in their perspective or that of their male colleagues after hearing a presentation from STRIDE or seeing the CRIT players. Junior women faculty reported significant changes in the climate of their individual departments, with comments such as ‘now certain things can’t happen’, ‘certain topics can now be discussed in my department that couldn’t be raised before’, and ‘we are more willing to speak up or call people on issues than before’. Several departments showed a major turnaround in attitudes and practices; the astronomy department was ‘transformed’ according to one respondent, with two new hires of women faculty following the STRIDE intervention and faculty discussion.

Institutional intermediation thus represents an institutional, strategic and role innovation. It does not replace governance, mobilisation and compliance approaches. On the contrary, it leverages the potential and incentives of these approaches to identify and address problems. It does this by creating linkages connecting actors’ knowledge, incentives, values and practices, and by targeting organisational pivot points that redefine cultural norms and practices. These linkages and pivot points destabilise the status quo and enable multi-dimensional and coordinated analysis and action. The next section explores the theories-in-action that orient and, we hypothesise, help understand when and why problem-solving intermediaries enable sustainable change.

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STRATEGIES OF INSTITUTIONAL INTERMEDIATION: LINKAGES AND PIVOT POINTS

Three related intervention theories animate the work of these institutional intermediaries: (1) functional integration of gender equity and core institutional practice, even as it maintains gender as a distinct normative and critical category; (2) development of bridge builders who play a key role in promoting necessary learning, coordination, collaborating and rethinking; and (3) building in the architecture for continually regenerating mobilisation and leadership. These theories share an emphasis on the role of linkages and pivot points in destabilising problematic routines and motivating learning necessary to reshape practice.

Functional integration: Embedded advocacy and accountable governance

Institutional change will not result simply from policy change, even if participatory and deliberative problem-solving processes produce reform in policies and priorities. Knowledge about and commitments to gender equity also have to be strategically linked, at particular moments in time, to the myriad routines and decisions that actually determine access, opportunity and participation. This requires a process of institutional internationalisation. Internalisation means incorporating inclusiveness into the way department chairs, deans, search committees and other leaders do business. It also means that knowledge about problems and their solutions influences day-to-day practices, and those committed to gender and racial participation have a place at the table. It institutionalises processes and roles with responsibility for revising current practice in light of new information. Internalisation focuses on institutional stakeholders with the power, incentives and capacities to influence policy and practice over the long run. It requires active participation by insiders.

The design of ADVANCE undertakes that internalisation process through functional integration: building deliberation and problem solving about gender into values, roles and processes of an institution. Gender issues are self-consciously linked to governance routines, incentive structures, and institutional priorities. The ADVANCE initiatives employ three pivotal strategies for functional integration: problem framing, constructing roles for those with primary responsibility for the initiative and establishing the processes and occasions for doing the work.

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349 United States: Gender Equity Regimes

54 UM ADVANCE Program Overview (http://www.umich.edu/~advprog/overview.pdf).
3 Ibid.
4 Ibid.

Functional integration through problem framing

The ADVANCE initiatives connect gender equity problematics and goals to core institutional concerns, and at the same time preserve gender as a distinct analytical and normative category. NSF explicitly links its gender equity goals to the broader normative frame of advancing scientific inquiry and achievement. It encourages applicants and grantees to explore how women's advancement could improve the quality and dynamism of the overall academic enterprise.\(^6\) Local empirical analysis of gender inequality's causes and solutions also operates to connect gender to underlying institutional dysfunction preventing full, inclusive and productive faculty participation in academic science. How is women's under-participation a signal for more general and generic institutional dysfunction? The analysis that NSF grantees are required to undertake reveals that in a given context, gender equity cannot occur without changing governance structures generally, which in turn benefits the overall institution. This conceptualisation prompts those primarily concerned with gender to identify underlying causes, shared interests and institutional strategies that must be addressed to achieve gender equity. It also encourages governance actors to integrate gender analysis into ongoing decision making. At the same time, women's full participation remains a distinct and significant goal.

Functional integration helps considerably in dealing with potential backlash. By backlash, we refer to opposition or resistance to equity initiatives based on perceptions of unfairness, counter-productivity, or illegitimacy. As one Dean put it, there are 'some that are hostile, to the point where they fight against it. They view what we're doing as set-asides, quotas'\(^7\). Backlash often proceeds on an assumption that diversity and merit are two opposing concepts, and that efforts to include women and people of colour are at the expense of excellence and on the backs of majority group members. Functional integration by definition connects gender equity to questions of institutional mission. This is the direction suggested by the Supreme Court's recent decision in the Michigan cases.\(^8\) Functional integration also responds directly to the concern that diversity is at the expense of quality by explicitly showing that gender cannot be addressed without correcting underlying institutional problems, and that creating conditions more conducive to gender participation will also redound to the benefit of others affected by the same dynamics.\(^9\)

Where functional integration of substantive concerns has occurred, it has helped gender equity advocates institutionalise continuing interaction and productive tension between routines and vision. This integrative framing of gender with dominant professional and institutional concerns also provided multiple entry points for those dissatisfied with the status quo. Many women found it difficult or risky to place and keep gender on the agenda when the issues were framed in terms of either intentional discrimination or special privileges for women. They expressed reluctance to claim gender as an identity category unless it could be related to their professional identity and status. Some expressed unwillingness to point fingers or to claim gender bias because they did not want to adopt what they referred to as victim status or to be perceived as whiners. The dual agenda approach opened up the range of critical frameworks which would prompt and legitimate a response. It also created alliances between those concerned about gender and those concerned about dysfunctional governance patterns that affected departmental quality. As gender became legitimised as a category, in part because NSF has recognised its relationship to the scientific project, women expressed greater willingness to include gender as a distinct concern and to identify themselves as women concerned about gender equity in the workplace. Thus, substantive functional integration effectively mobilised a broader range of stakeholders.

Functional integration through role hybridity

ADVANCE also promoted functional integration through the creation of hybrid roles for those centrally involved in its work. NSF encouraged Michigan's ADVANCE to set up the grant so that the people responsible for implementation lie at the intersection of two complementary practice spaces. The first is the ADVANCE space: problem-solving work that cuts across multiple institutional and disciplinary domains linked by gender analysis. The second is core operational goals, functions and authority: the decision-making and routine practices of institutional governance. The ADVANCE players are situated so that they link and move back and forth between the two domains, both substantively and structurally.

Functional integration results in part from a strategy of accountable governance. Those with significant administrative responsibilities assume direct and public responsibility for gender equity in general and for implementation of the NSF ADVANCE grant in particular. For example, the deans of the three major colleges also became Co-Principal Investigators (Co-PIs) on the NSF ADVANCE grant. They were essentially drafted into the project, without complete appreciation of what they were signing on to do, but over


\(^{7}\) Interview with Dean and co-PI, 1 June 2004.

\(^{8}\) Grutter v Bollinger, 123 S Ct. 2325 (2003); Gratz v Bollinger, 123 S Ct. 2411 (2003).

\(^{9}\) See Gutman and Torres, n 21 above.

\(^{10}\) See Mary Fainsod Katzenstein, 'Feminism within American Institutions: Unobtrusive Mobilization in the 1980s' (1990) 16 Journal of Women in Culture and Society 27.
time become invested in the success of ADVANCE. This move formalised responsibility and accountability for the success of ADVANCE. Over time, it also enhanced and solidified the Deans’ commitment to gender equity as a priority.\(^{81}\)

To scientists, NSF grantee responsibilities are familiar and legitimising, and they carry reputational value and consequences. The same strategy also brings those with core leadership responsibility out of their normal setting and authority structures into the ADVANCE space, where they have the opportunity to think creatively, to interact in an open-ended way with those directly affected by the problem, to brainstorm with an interdisciplinary group of faculty and experts and to problem-solve. As one ADVANCE protagonist described it, ‘people with access and power [were] given a different conceptual framework for thinking about their role, which influenced the way in which they carried out their policymaking responsibilities’. Deans and chairs gained access to information they otherwise lacked. ‘I can’t tell you how many times there was shock and surprise at the table—learning about the way things work’.\(^{82}\) Involving governance actors as direct caretakers of ADVANCE enabled the linking of normative commitments, policy change, incentives and accountability. Initiatives particular to ADVANCE were generalised beyond the scope of what ADVANCE requires.

Importantly, functional integration simultaneously works in the opposite direction through embedded advocacy: gender equity advocates and experts move in and out of leadership positions with core operational responsibilities. ADVANCE proliferates occasions for gender advocates and experts to participate in decision-making arenas. Abby Stewart, ADVANCE’s Principal Investigator, assumed a high level administrative responsibility within the dean’s office. She had regular contact with department chairs in her dual role as Academic Dean and ADVANCE PI.

The grant involves pre-existing organisations such as the Center for Research on Teaching and Learning, the Center for Education on Women, and the Institute for Research on Women and Gender in the planning and implementation of crucial ADVANCE functions. These organisations have some formal responsibilities for ADVANCE related work, such as conducting evaluations, running networking programmes, facilitating workshops and consulting. They regularly interact with decision makers about the work, and act as intermediaries between ADVANCE and the constituencies of their organisations. As a second example, a dean has created an advisory committee of women faculty, which meets regularly with him, as well as with department-level leaders. In addition to these governance tasks, the advisory committee has monthly meetings with the larger group of women they represent, which have in some cases resulted in successful policy recommendations on the college-wide level. This partial integration of gender experts and advocates into governance routines has provided crucial source of learning, accountability and destabilisation. Because of these emergent, hybrid roles, co-PI Deans collaborate regularly with respected colleagues who are not constrained by administrative necessity and who are accountable to the constituencies most directly affected by and interested in the success of the initiative. In the words of one participant, ‘we are like the little burr’.\(^{81}\)

**Functional integration through routine organisational processes**

Finally, functional integration is occurring at the University of Michigan at the level of daily routines and practices. Regular gatherings such as chairs meetings and faculty searches have at times become mini ‘constitutional moments’ in which norms are elaborated, practices rethought in light of normative commitments and new knowledge, and accountability processes developed. These occasions are used to put on the table the underlying structures and values that shape daily practice. In the university context, this often involves how decisions get made about bringing new members into the community and allocating responsibilities and benefits among existing members. The collection of information revealing structural problems, coupled with regularised occasions to discuss that information, generates the urgency and collective will to change institutional routines. This can give rise to new public commitments that result when there is collective activity around documented problems.

ADVANCE has been quite self-conscious in its strategy of regularising occasions for institutional reflection about structural questions relating to gender and other related concerns. This includes integrating gender issues into already existing meetings or reviews, such as faculty meetings, chair and dean meetings, departmental and salary reviews and accreditation and other ongoing evaluations. It also has been achieved by creating new forms of regular interaction integrating gender and governance concerns. For example, ADVANCE has given rise to monthly meetings of women science chairs. Data gathering relevant to gender issues has also been integrated into operations, for example by building iterative reporting and monitoring into the process of getting resources from the central administration to run a search and hire a candidate. When individuals with multiple forms of accountability regularly move back and forth across ADVANCE and core operational spaces, meetings and other encounters have the potential to raise insistent questions, disrupt business-as-usual and produce policy informed by generalisable learning. This destabilisation of routines and reflection about practices can otherwise be a rare event in academic governance.

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\(^{82}\) Interview with Dean and Co-PI, 1 June 2004.

\(^{81}\) Interview with ADVANCE participant, 28 Jan 2005.
Functional integration also enables the process to move in the other direction—from mini-constitutional moment back into organisational routine. In other words, functional integration creates new relationships and experimental spaces connecting governance, mobilisation and compliance roles, often with the intervention of bridge builders. This enables actors at University of Michigan to use the learning that comes out of the gender equity initiative in the course of routine decisions and practices, such as designing search processes, allocating work and leadership roles and distributing resources.

The role of bridge builders: Connecting domains, discourses and knowledge

Achieving change within universities is like herding cats. Power is highly dispersed. Departments often lack information about each other and about central administrative priorities and initiatives; central administrators lack reliable information about departmental decisions and practices. Departments and disciplines do not regularly interact; they value different types of knowledge and communicate using different language and styles. Yet, as we have seen, gender and racial under-participation results from accumulation of this kind of decision making, and from cultural and institutional patterns that cut across these domains but are difficult to observe or change from one location. Often, the processes, structures and incentives to cross these synapses do not exist.

ADVANCE has introduced the role of bridge builders as a way of institutionalising this much-needed synapse-crossing. Bridge builders are individuals who are able to operate across different domains and levels of activity to understand and influence the interaction of actors, incentives, routines, and goals. The role is not unique to ADVANCE; bridge builders can be found informally in many settings. ADVANCE, however, places bridge builders at the centre of its implementation strategy and builds their role into the structure of the change ADVANCE principal investigators and STRIDE faculty are two examples of ADVANCE-inspired problem-solving intermediaries.

Bridge builders are defined by their characteristics, their institutional location, and their roles. First, their characteristics: bridge builders come to the position with a track record of effective participation in the institutional arena generally and around issues of fair treatment in particular. They have previously been involved extensively but informally in problem solving, as bridge builders, trouble shooters, and mentors. This background affords them legitimacy with different constituencies coming into the role. They also bring deep cultural knowledge of the institution—its values, informal power structures and minefields.

Second, their institutional location: bridge builders sit at the convergence of interdependent but distinct governance domains. They have crosscutting responsibility and authority for influencing practices relevant to the participation of women faculty. This problem orientation affords them institutional authority and resources to work with individual faculty members, chairs, deans, advocacy leaders, central administrators, compliance actors—anyone affected by or in a position to affect women's participation as faculty. The Principal Investigators of ADVANCE, for example, interact at the individual level, with faculty who are experiencing difficulties in their departments or who are considering leaving the University. They meet regularly with chairs, deans and other governance actors. They work closely with advocacy and research institutions involved in studying or providing services. They convene and participate in groups and networks of faculty and administrators concerned about gender equity. They thus have access to different levels of problem articulation and intervention, and can move across levels without the usual conceptual and bureaucratic constraints. They can participate in the decision-making bodies within these different domains as they impact gender. They thus have multiple sources of accountability, from both the top and the bottom.

Third, their role: bridge builders facilitate problem solving. They integrate existing knowledge about the problem and its potential remediation. They work with individuals who bring problems to their attention by virtue of their public identification as problem solvers. They work with researchers to generate knowledge about the problem and its remediation, which they in turn share. They identify patterns revealed through both individual complaints and systematic evaluation. They locate current and potential collaborators who bring different perspectives, forms of institutional legitimacy, and forms of power. They bring the right people to the table to collaborate on problems that cut across their responsibilities and interests.

ADVANCE has provided the Michigan gender equity initiative with the opportunity and resources to identify individuals and institutions already performing a mediating role, provide them with institutional legitimacy and support, and enhance their capacity to perform these roles. ADVANCE also employs programmatic interventions that breed and enable new bridge builders and institutions.

The bridge builders in the ADVANCE projects play several crucial linking functions. First, they provide an overarching conceptual framework for the gender initiative, one that connects an understanding of the culturally and institutionally rooted dimensions of the problem to programmatic intervention, system design and institutional change. This conceptual orientation prompts actors to think about their efforts in relation to each other and to larger goals and analyses. This framework informs their self-evaluation.

84 Indeed, the most recent NSF ADVANCE solicitation requires grant applicants to articulate the conceptual framework underlying their concrete programmatic proposals. See Program Solicitation, n 38 above.
Second, bridge builders' history, skill set and position make them multilingual. Bridge builders work on the individual, group, and system level. They also move back and forth between the local institutional, multi-institutional and national level. This boundary spanning across different domains provides them with cross-cutting cultural and institutional knowledge and relationships. This form of institutional capital enables them to translate normative commitments into the language of particular communities, and in turn, to rethink general normative principles in relation to the experiences of particular contexts. This fluency also enables them to determine when they lack the necessary legitimacy, knowledge or fluency to communicate within particular domain. An understanding of the importance of communication has prompted their emphasis on recruiting and developing new bridge builders to perform a similar function in their own practice domains. The job of communicating with scientists about the nature and scope of the problem required participation of actors with legitimacy within each disciplinary realm. NSF has played a tremendous role in legitimising gender equity as a serious subject that is amenable to the rigorous techniques and methodologies that characterise NSF's approach to scientific research and development.

Third, bridge builders use small scale problem solving and trouble shooting to generate occasions for mobilisation and systems change. They have the flexibility and mandate to intervene strategically when action is needed. Bridge builders construct experimental spaces to address problems that would otherwise remain on the back burner, and help redesign governance systems to address both gender equity issues and more general issues of institutional fairness and effectiveness. Dilemmas can become occasions for change, an entry point that is focused on a manageable issue but embedded in a pattern of interactions to which the mediating actor has access. Individual incidents, such as the threatened departure of a senior faculty woman or a search yielding no diverse candidates, provide opportunities for problem and pattern identification. Institutional failures thus operate as triggers for reflection and problem solving. Exposure to multiple realms over time and space enables interventions that ratchet up and down the different locations at which gender inequality functions. It also facilitates the cross-domain knowledge sharing so crucial to linking the local and the centre, both within a particular university and among a network of universities.

The architecture of accountability: Developing movers and shakers

We have been describing a process of integrating concerns about equity into the fabric of daily decision making. This process entails ongoing questioning and revising practices in light of the problems identified. Such a process is difficult to sustain over the long run, particularly when normal incentives and routines cut against devoting time and resources to these questions. Leadership often surfaces as a key factor in enabling this ongoing change—strategically located individuals who exercise power to influence choices and priorities. In the context of universities, this kind of leadership must be exercised not only by the central administration, but at the many different locations determining access and participation. This power stems both from formal authority and from mobilisation by those committed to increasing the participation of women and people of colour. Effective and committed leaders have played central roles in jumpstarting gender and racial initiatives. But change efforts cannot last if they remain dependent upon a few key change agents. Many creative reform efforts have faltered when reform-minded presidents leave office or faculty reformers move on. Moreover, the mobilisation efforts that produce leadership and accountability are quite difficult to sustain. The long-term viability of a public problem-solving approach to gender and racial inclusiveness depends upon the capacity to institutionalise the regeneration of leadership and mobilisation.

ADVANCE explicitly focuses attention and resources on replenishing existing commitments and fostering new leadership. ADVANCE self-consciously creates regular opportunities for those concerned about gender equity to interact, to develop shared understandings about the problems, to develop their capacities to shape their environments and to assume responsibility for action. Those who receive individual faculty support for their career advancement often have institutional responsibilities attached to the receipt of funds that encourage their development as leaders both in their fields and in the institution. Small grant programmes exist to provide recognition and leadership for those who want to participate. Faculty development work takes place often in group contexts which give the opportunity for similarly situated actors to develop ongoing networks for information exchange and support. The emphasis on micro-environments creates multiple and lower risk opportunities to mobilise and exercise leadership. The NSF grant legitimised forms of mobilisation consistent with professional identity. This every-day mobilisation is occurring as the same time as those with formal governance responsibilities are developing the tools to groom new leadership. The NSF and Michigan ADVANCE projects self-consciously link the development of individuals' capacity to thrive with a sense of the possibility of change at a more systemic level.

Effective mobilisation occurs when there are pivot or leverage points that attract and enable joint, normatively focused practice. In the gender context, these may be occasions for analyzing individual problems in relation to group or institutional concerns or experiences. These micro-occasions make underlying dynamics visible, so that one can identify an issue as a gender or institutional dysfunction concern that warrants action. As this understanding develops, routine decisions become occasions for exercising situational leadership. In addition to building capacity and hope, the gender equity initiatives have created a new range of occasions in which people
can understand themselves as part of a larger phenomenon and act in accordance with this realisation. ADVANCE uses meetings focused on capacity building and leadership development to perform this mobilisation function. They simultaneously energise, equip and motivate individuals to act, and create the opportunities for them to put this energy into effect. These meetings focus on concretely supporting and advancing the participants’ work, and connecting that personal advancement to participation in institutional change. Very busy people regularly attend! The strategy is to locate the need and the energy and then to develop a project or intervention to sustain that energy and link it to institutional practices. These pivot points often lie at the intersection of resources, an occasion to act, and a space in which issues can be raised without substantial risks to individual participants.

Multiplying the occasions for people to exercise leadership in informal but influential contexts has the potential to open up additional leadership roles as well as continually reconstruct the meaning of leadership in the context of the demands of a particular project. The Dean of the Engineering School, also an ADVANCE PI, created an Advisory Committee of female faculty to work with him on gender-related issues. He meets with them at least once a semester. Some of the members of this committee are also part of STRIDE, so ‘there is another flow of information that goes through the institution’. The group is interested in the broader picture as well. In addition, the committee has a monthly meeting with faculty on issues related to women; it meets with each department chair, and with every female candidate as she nears the end of the hiring process. They also wrote a report making recommendations based on these conversations. According to the Dean, the Engineering School has put some of those recommended policies into place.

Another example at the level of the National Science Foundation ADVANCE Project is the continually expanding cross-institutional leadership of people like Abby Stewart and Virginia Valian from Hunter College. Such roles are sustainable because the relationships forming across ADVANCE grantees are ongoing, through the interplay of meetings, site visits and communication over websites.

ADVANCE also used the strategy of building on pre-existing institutions that have a track record and a commitment to gender issues at the university. The University of Michigan’s Center for the Education of Women (CEW) and Institute for Research on Women and Gender (IRWG) are two examples of institutional actors who bring skills, such as research, and capital, such as networks, to the collaboration. They had a considerable track record in addressing gender issues at Michigan, and brought different constituencies and skills to their work. ADVANCE involved them from the outset; they assumed roles in the ADVANCE work that built on their strategic position within the university. This avoided some of the turf battles that can arise among advocacy groups, and bootstrapped the institutional capital and resources of these groups to the ADVANCE initiative.

These three strategies—promoting functional integration, bridge builders and ongoing mobilisation—permeate NSF’s gender equity approach. Combined with NSF’s pivotal location within a web of collaborative and competitive relationships, these strategies provide powerful responses to the ‘how’ questions that are so crucial to new governance’s efficacy.

CONCLUSION: THE IMPLICATIONS OF THE GENDER EQUITY EXAMPLE FOR NEW GOVERNANCE AND CONSTITUTIONALISM

The NSF case study shows the powerful role that linkages, forged by problem-solving intermediaries, played in orchestrating the conditions necessary for effective and accountable problem solving. This crucial role for linkages has been emerged in other public regulatory arenas as well. In the area of international governance regimes, linkages have been key in forming trans-governance regulatory regimes that include non-state actors and regulatory networks ‘exchanging information, coordinating national policies and working together to address common problems’. In the area of organisational change, linkages relating local organisations to their larger social environment have been identified as a dominant factor influencing their structure and direction.

The gender equity example also documents the particular circumstances contributing to problem-solving intermediaries’ effectiveness in playing this linking role. NSF is an evidence-based intermediary organisation. It operates within a pre-existing community of practice among varying levels within universities. It builds on the prior mobilisation of activists concerned about gender inequality. It carries tremendous legitimacy and resources, enabling it to form vertical collaborative relationships with grantees, and to facilitative horizontal interactions among universities.

The confluence of these variables in the NSF case triggers a question about genders, networks and mobilised stakeholders needed to forge these crucial linkages. Will constitutional approaches increase the likelihood that these conditions and institutions will develop? Or, will they produce symbolic or cosmetic processes that essentially legitimate the status quo? One

87 Anne-Marie Slaughter ‘Global Government Networks, Global Information Agencies, and Disaggregated Democracy’ (2003) 24 Michigan Journal of International Law 1041, 1043; Ora P Young, Governance in World Affairs (Cornell University Press, 1999), 193. This coordinated activity may take place either formally, through the mandate of international conventions, or informally, through regularised interactions of governmental and non-governmental actors at different levels. These activities may result in binding norms, shared expectations, guidelines or combinations of these forms.


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* Interview with Dean and Co-PI, 2 June 2004.
response to this risk would be to eschew constitutionalism and instead adopt a purely incremental, domain-specific strategy for introducing new governance processes: Develop new governance only in contexts with adequate infrastructure and networks. But this approach suffers from the opposite limitation. It fails to build the infrastructure to engage in the form of public problem solving necessary to address complex problems. It also assumes that this capacity is static, and that it can be managed or pre-determined by those designing regulatory interventions.

Perhaps a way out of this dilemma is to use pragmatism and root cause analysis (the methodologies of new governance) to develop more nuanced strategies for scaling up new governance as a regulatory approach. We may need to rethink what we mean by constitutionalism and its relationship to problem solving. The first step of this inquiry entails figuring out the right theoretical and empirical questions: Where are the recurring breakdown points in public problem-solving efforts and why are they occurring? How could public institutions be better equipped to overcome those barriers? Are any of these barriers traceable to general patterns reachable through overarching shifts in incentives or institutional design? How could we rethink the roles of different types of public and quasi public agencies to increase the repertoire of public institutions involved in this problem-solving work? Are there particular prerequisites for public problem solving (such as improved data-gathering capacity) that could be pursued generally without necessarily legitimating normative outcomes resulting from superficial or illegitimate processes? What is the appropriate mix of overarching processes and contextualised experiments?

In many respects, scholars of new governance face many of the same challenges confronting new governance practitioners. The unanswered questions lie at the intersection of disciplines, institutions and regulatory systems. Their engagement requires fluency across these various domains, as well as the capacity to bridge the normative and the empirical. We too must learn to be bridge builders, mirroring the challenge of the problem-solving projects themselves.