

6 STEPS TO GENDER EQUALITY

and more essays about

HOW EVERY UNIVERSITY CAN GET MORE
WOMEN TO THE TOP AND WHY THEY SHOULD

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Table of Contents

Preface	<u>3</u>
Introduction	<u>5</u>
Part I: Where we're at	<u>6</u>
1 Why women in science don't want to work at universities	<u>7</u>
2 There are only 3 reasons women don't make it to the top	<u>9</u>
3 A slow thaw for women	<u>11</u>
Part II: Why we're stuck	<u>13</u>
4 The motherhood penalty	<u>14</u>
5 The fatherhood bonus	<u>16</u>
6 Peer evaluation is not objective	<u>18</u>
7 Spain's big step forward	<u>20</u>
8 The paradox of meritocracy	<u>22</u>
Part III: How we can move forward	<u>24</u>
9 6 steps to gender equality	<u>25</u>
10 Role models	<u>28</u>
11 Affirmative action	<u>30</u>
12 The promotion project	<u>33</u>
13 Afterword	<u>35</u>
Notes	<u>36</u>
About the Author	<u>37</u>

Preface

Universities have the potential to answer many of the most basic challenges faced by modern societies. We answer them through research — making new discoveries. We answer them through education — conveying previous discoveries. Research and education together move societies forward.

Yet even though universities hold the key, those of us who work there don't deliver results as well as we could. Sometimes we take too long, distracted by more pressing demands in the system. Sometimes we stop our work before it's finished, without identifying the benefits to society that might be found in some new knowledge.

It's not just our research that can be poorly delivered. Our approaches to education are sometimes so conservative that we lose some of those who are hungry to learn.

It is my belief that one of the most basic impediments to more effective delivery of research and education is the quality of the workplace at many universities. The academic staff could easily be equipped to better perform their research and teaching. Ask professors what they do that someone else should be doing — or ask them what they do that no one should be doing — and you'll get an earful. The support staff, too, could be liberated to spend their time on tasks which improve the quality of research and education.

Making Universities Better

I have spent over half my academic career in leadership positions, first as the chair of my department, then as the founding director of the University of Tromsø's first Norwegian Center of Excellence — the [Center for Advanced Study in Theoretical Linguistics](#) -- and later as the elected Pro Rector for Research & Development. Through this leadership experience, I've developed a passion for working to make universities better.

I used to think that one inevitable side-effect of improving university workplaces would be an the removal of some of the barriers to gender equality. But as I talked with more women at universities and as I read more research about bias, I came to realize that I had gotten it exactly backwards. It's not that improving the quality of the university workplace generally will necessarily make it better for women. The truth is just the opposite: Making universities better workplaces for women will improve their quality for *everyone*.

Following my belief that research is the key to solving society's challenges, I build my arguments for improving gender equality on exactly that — research. For example, I study and synthesize what scientists have discovered about how teams work or how hiring, promotion and publication evaluations are carried out. I read about the effects of role models and the perceptions young women and men have of academic careers. I get into the peer-reviewed literature and I analyze reports from think tanks, government agencies, NGOs and private industry.

Discussing Gender Balance

I blog on issues related to university leadership at <http://curt-rice.com>. The most prominent topic on my blog is gender — gender equality and gender balance. Although I sometimes am casual in

switching between these terms, they do mean different things. *Gender equality* is achieved when individuals in any particular situation are treated equally, independent of their sex or gender. *Gender balance* is a property of groups, so that it is achieved when there are roughly equal numbers of men and women in that group.

When I speak on the importance of improving gender equality and gender balance, my talks often build comprehensive arguments that include various pieces taken from the research syntheses appearing on my blog.

My arguments are spiced with stories from my own work at the University of Tromsø, and in Norway and Europe more broadly, to improve research organizations by improving the plight of women at research organizations.

Like those talks, this book takes several blog entries and weaves them together to illustrate in one place a somewhat broader perspective than is possible in 1000 words. My goal is to offer something useful for those looking to explain or understand why it is essential for the success of universities that we commit to working explicitly and deliberately to improve gender equality.

Where We're Headed

My focus here is superficially narrow; the main imbalance in academia in Europe and North America is at the top, at the rank of full professor. That issue dominates the chapters below. But this is to a large extent only rhetorical. Arguments for the importance of gender balance are relevant at all levels, in all kinds of organizations — certainly anywhere teamwork is valued.

I have organized the collected blog entries into three sections. In the first section, I try to illustrate where we're at and why it's

important to care about gender balance. I offer a brief look at how young people perceive academia, what the only three barriers for women can be, and why the predominance of women at the bachelor's degree level isn't enough to give unqualified hope for the future.

The second section of the book demonstrates that a mere principled commitment to gender equality is not enough; it shows us why we're stuck. Study after study demonstrates that in many different environments, we discriminate in spite of our best intentions. It's important to understand this if you're going to make a change.

In the third section, I offer a vision of the way forward, including a presentation of a novel, innovative, and successful project we have run at the University of Tromsø over the past few years.

And finally, I invite you to a conversation — a conversation I'm already looking forward to, a conversation that may be the start of an answer to one of society's most basic challenges. Let's move universities forward together!

Introduction

On June 12th, 2002, the government of Norway announced the names of 13 groups that had been selected to create Norway's first Centers of Excellence. These centers would receive privileges most researchers could only dream of. Well-equipped with all they could need, they would take Norwegian research to new heights in Europe and beyond.

The Center of Excellence program was portrayed as the flagship of the Research Council of Norway. In the inevitable public debate following the press conference that morning, the selection process itself was characterized as the most rigorous ever implemented by the Research Council.

During the announcement, the 13 of us who would lead these centers were called forward. We stood there proud and hopeful, feeling like crown princes in the fiefdom ruled by our Minister of Education and Research. And we certainly looked the part, standing there together in our dark suits and ties — all 13 of us. One could be forgiven for finding it difficult to distinguish among the members of the group; every one of the new Center Directors, after all, was a man.

The press conference that spring day was not just about the Centers of Excellence. There was one more competition winner to be announced.

Elementary school classes all over the country had spent months carrying out demanding scientific investigations, vying for the title of *Curious Pete* (*Nysgjerrig Per*). The award for 2002 would be

presented to one of these classes by the real Crown Prince, HRH Håkon Magnus of Norway. Scores of giddy schoolchildren were present and several of the classes demonstrated their projects. The youngsters were brimming with excitement and enthusiasm for science. There were many, many boys present. And there were many, many girls, too.

It was no accident that these two awards were made at the same press conference. The organizers' clever idea was that the young schoolchildren would look at the Directors of the new Centers of Excellence and see their own futures. We would inspire them, motivate them, help them to realize what they could become.

The Directors of the new Centers of Excellence and the winners of the *Curious Pete* competition were in that auditorium together, at the same time. But it felt like a time warp. We were supposed to be a picture from the pupils' future; but the 13 of us collectively looked much more like a stiff painting from their past.

And it wasn't just the girls that morning who couldn't see their futures in the group of Directors. It was the boys, too. True, the boys could at least see individual role models of the same sex, which the girls could not. But the striking thing about the winners of the Center of Excellence competition became clear only when looking at them as a group. Even for the schoolboys who were present, that group couldn't reveal a snapshot of the future. When those boys are adult scientists, after all, they won't be working exclusively with men. There won't be groups that look like the one that was standing in front of them that morning. And while it was easy to see how our selection had in some sense failed the girls in attendance, it turned out that we had just as profoundly failed the boys.

Part I:

Where we're at

More than a decade has passed since the press conference described in the Introduction. Several of the boys and girls who won the *Curious Pete* prize for 2002 are working on university degrees now. And as some of them advance, first to a higher degree, then to a postdoc, and ultimately to a scientific career, they will encounter obstacles on their paths. If we watch how they react, we will see that those obstacles affect men and women differently.

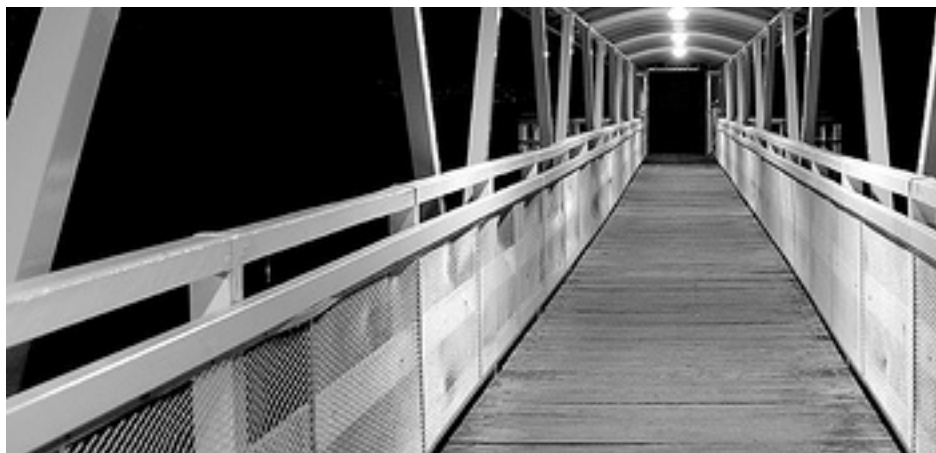
As a consequence, more women than men will leave science and academia. In Chapter 1, I describe a research project in which scientists followed PhD students to document how their career plans developed. That feeds the argument in Chapter 2, where I claim that sex-sensitive barriers are a primary source of divergence in the career trajectories for men and women.

The third and final chapter in this section explores the idea that if we only wait a little longer, gender balance will inevitably emerge. On the basis of longitudinal research, I claim that we cannot reasonably expect such automatic changes to be significant any time soon.

1.

Why women in science don't want to work at universities

Young women scientists leave academia in far greater numbers than men for three reasons. During their time as PhD candidates, large numbers of women conclude that (i) the characteristics of academic careers are unappealing, (ii) the impediments they will encounter are disproportionate, and (iii) the sacrifices they will have to make are great.



This is the conclusion of [The chemistry PhD: the impact on women's retention](#), a report for the UK Resource Centre for Women in SET (Science, Engineering and Technology) and the Royal Society of Chemistry. In this report, the results of a longitudinal study with PhD students in chemistry in the UK are presented.

Men and women show radically different developments regarding their intended future careers. At the beginning of their PhD

studies, fully 72% of women express an intention to pursue careers as researchers, either in industry or academia. Among men, 61% express the same intention.

By the third year, the proportion of men planning careers in research had dropped from 61% to 59%. But for the women, the number had plummeted from 72% in the first year to 37% as they finish their studies.

If we tease apart those who want to work as researchers in industry from those who want to work as researchers in academia, the third year numbers are alarming: 12% of the women and 21% of the men see academia as their preferred choice.

This is not the number of PhDs who in fact do go to academia; it's the number who want to.

88% of the women don't even want academic careers, nor do 79% of the men!

How can it be this bad? Why are universities such unattractive workplaces?

Improving the PhD Experience

Part of *The Chemistry PhD* discusses problems that arise while young researchers are PhD candidates.

Improving the PhD experience requires taking account of these problems, including too little supervision, too much supervision, focus on achieving experimental results rather than mastery of methodologies, and much more. The long-term effects, though, are reflected in the attitudes and beliefs about academia that emerge during this period.

The participants in the study identify many characteristics of

academic careers that they find unappealing. The constant hunt for funding for research projects is a significant impediment for both men and women. But women in greater numbers than men see academic careers as all-consuming, as solitary and as unnecessarily competitive.

Both men and women PhD candidates come to realize that a string of post-docs is part of a career path, and they see that this can require frequent moves and a lack of security about future employment. Women are more negatively affected than men by the competitiveness in this stage of an academic career and their concerns about competitiveness are fueled, they say, by a relative lack of self-confidence.

Sacrifice as a Prerequisite for Academic Success

Women more than men see great sacrifice as a prerequisite for success in academia. This comes in part from their perception of women who have succeeded, from [the nature of the available role models](#). Successful female professors are perceived by female PhD candidates as displaying masculine characteristics, such as aggression and competitiveness, and they were often childless.

As if all this were not enough, women PhD candidates had one experience that men never have. They were told that they would encounter problems along the way *simply because they are women*. They are told, in other words, that their gender will work against them.

By following PhD candidates throughout their study and asking probing questions, we learn not only that the number of women in chemistry PhD programs who intend to pursue a career in academia falls dramatically, but we learn why.

This research and the new knowledge it produces should be

required reading for everyone leading a university or a research group. The stories surely apply far beyond chemistry. Remember that it's not just women who find academia unappealing. Only 21% of the men wanted to head our way, too.

Universities will not survive as research institutions unless university leadership realizes that the working conditions they offer dramatically reduce the size of the pool from which they recruit.

We will not survive because we have no reason to believe we are attracting the best and the brightest. When industry is the more attractive employer, our credibility as the home of long-term, cutting edge, high-risk, profoundly creative research, is diminished.

The answers here lie in leadership and in changing our current culture to build a new one for new challenges. The job is significant and it will require cutting edge, high-risk leadership teamwork to succeed. Is your university ready?

2.

There are only 3 reasons women don't make it to the top

It's true in higher education, it's true in law firms, it's true in hospitals (it's even true [in monarchies!](#)): women can get far, but they can't get all the way to the top.



In Europe, fewer than 10% of universities are run by women. In Fortune 500 companies, about 17% of lawyers are women. Even in a relatively egalitarian country like Norway, a man in healthcare is [much more likely](#) than a woman to achieve a position of leadership.

There are only three possible explanations for the lower numbers of women at the top level of these organizations.

1. Women are not capable of doing the work that is required at the top.
2. Women do not have the desire to be at the top.
3. There are structural impediments preventing women from reaching the top.

That's it. Those are the three options.

It may be a little of one and it may be a lot of the other, but those are the alternatives we have to explain the relative absence

of women at the top. Whatever explanation is right for your organization, there are good reasons to believe [you'll be better](#) if you work for change. The only way this can happen, is through leadership.

Any organization with fewer women at the top than at the bottom should ask itself which of these explanations apply to it.

If you want to understand what happens to women's careers where you work, you might start by asking if the problem is that women simply aren't capable. It's a risky question. It's one I don't spend much time on. But even in higher education, there are those who do.

Capability

Larry Summers, former President of Harvard, suggested once that [women are inherently less capable](#) than men of succeeding in math and science. And once was all it took; shortly thereafter, [he lost his job!](#)

But a lack of *fingerspitzengefühl* isn't the only way to find oneself defending the first option. In the wake of the Summers fiasco, Harvard psychologists Steven Pinker and Elizabeth Spelke [debated the claim](#) that there is variation in the cognitive capacities of men and women, and Pinker defended the assertion that we should expect to find group-wise cognitive differences. And, in fact, there is [some evidence](#) that 7-year-old girls as a group have a higher average IQ than 7-year-old boys.

Desire

What about desire? At my university, about 40% of the associate professors are women while about 28% of the full professors are.

Those who don't make it to the highest rank aren't leaving. But do they simply not want to get all the way to the top? Could there be anything to this argument? Is there any reason to believe it might be somewhat true?

Women on their way to top leadership positions often emphasize different approaches to leadership, as the McKinsey *Women Matter* reports make clear. Women are better at collaboration than men, it is claimed, and collaborative behavior can at times appear indecisive or deferential, as recently argued in [Collaboration's Hidden Tax on Women's Careers](#).

This study, along with the related research, does not conclude that women lack the ambition to get to the top. It concludes that women's approach to the workplace in general and to leadership in particular, can have the superficial appearance of a lack of ambition, when judged against a male corporate culture.

Structural Barriers

The third possible explanation for having few women at the top is that there are structural barriers; in short, that there is discrimination. And, alas, the body of research on hiring and promotion makes it increasingly clear that there are in fact structural impediments for women. Men and women are [judged by different criteria](#), they are expected to perform differently, and they are rewarded differently for the same accomplishments.

The challenges here are many, but the first step is to see the problem. And it's a problem that [won't fix itself](#), not [even with time](#).

You owe it to yourself and your organization to ask these questions:

- Are there disproportionately fewer women at the highest level of our institution?
- Is that because women are less capable of doing the job?
- Is it because they don't want the job?
- Or is there something else that gets in the way?

The questions here should not be answered with anecdotes. There is extensive research addressing these questions. Bring that research into your organization. Find out how it applies where you work. Be honest about your answers. And then make things better.

After all, making your organization better for women will make it better for everyone.

3.

A slow thaw for women

Admission to medical school in Norway is based on an elaborate point system. High school grades, work experience, even age can give applicants more points and thereby increase their chances.

Lately I've heard informal discussions about adding a new criterion for points. Perhaps male applicants should get an extra point or two — just for being a man! Indeed, this has now been formally proposed for [men wanting to be nurses](#).



Incoming classes in medical schools in Norway have recently had about 70% female students. For some, the over-representation of women at this level gives hope.

Their hope reveals an argument I call THAW — Time Heals All Wounds. If we just wait, according to THAW, the large numbers of women entering medical school will lead to greater numbers of

women professors and greater numbers of women in leadership positions. This thaw is inevitable as today's students advance in their careers.

The Problem with THAW

Unfortunately, THAW is a flawed argument. Three recent research results highlight the problems with THAW.

1. In the article [“Is There Still a Glass Ceiling for Women in Academic Surgery?”](#) we learn that the number of women surgeons has risen dramatically over many years, but that they continue to be underrepresented in leadership positions, e.g. as deans of medical schools. Women progress through their careers more slowly, have lower salaries, and experience discrimination. The increased number of women surgeons has not given an increase in the numbers of women at the top of that field.

2. McKinsey's [Women Matter 2010](#) also demonstrates the fallacy of THAW. The report argues that time alone isn't enough; it is critical to change the promotion system if we want to increase the numbers of women in leadership positions. Their evidence against THAW comes from identifying the percentage of university graduates who are women in some year, and then seeing how many of them are in top leadership positions about 30 years later.

In Sweden, for example, 61% of university graduates in 1978 were women. 32 years later, they occupied 17% of top leadership positions. In 2008, 64% of university graduates were women; trend analysis predicts that women will constitute only 18% of Swedish top leaders in 2040.

Spain has rather different numbers. 32% of university graduates in 1976 were women. In 2010, the Spanish companies in the McKinsey database had 6% of their top leadership positions filled by women. In 2008, the percentage of university graduates who are women

had nearly doubled, reaching 60%. Trend analysis predicts that in 2040, 11% of Spain's top leadership positions will be filled by women.

3. In the Netherlands, [nearly 12% of professors](#) are women. The European Union's Lisbon Agreement had a goal of 25% women professors throughout Europe by 2010. At the current rate, the Netherlands will not reach this goal until 2030. The government of the Netherlands modified its goal several years ago, hoping to reach a meager 15% by 2010. This goal also went unmet and at current rates of increase, it will take until 2014 to get even there.

If we just wait, we won't see the benefits of gender balance in top leadership teams in our lifetimes. The thaw is just too slow.

Part II

Why we're stuck

Imagine a young scientist appears in your office and tells you that she chose a career in research after her elementary school class won the Curious Pete contest. She continues, telling you about the challenges she has faced. Some of her difficulties may affect women and men differently, while some may affect all early career scientists. Because you care about the future of your field, you want to act.

The success that any of us may find as we try to nurture young talent and make their working days better necessarily builds on an understanding of the status quo. Where are we right now? What are the tools we have? What are the sources of these hindrances?

The research presented in the section focuses on what we all wish we didn't have, namely subconscious biases. Subconscious bias is a central source of the different experiences men and women have in the workplace.

Most of the research in the following chapters is based on laboratory studies. For example, research participants play the role of managers and evaluate employee descriptions that vary only in whether the name is that of a man or a woman.

Chapters 4 and 5 look at attitudes about parenthood. Perhaps it is not so surprising that women who are mothers are undervalued when compared to women who are not mothers. A more surprising

result is that men who are fathers are overvalued when compared to men who are not.

Peer review is discussed in Chapter 6, where we also see subconscious bias. Chapter 7 presents some results from a Spanish study examining thousands of promotion cases and mentions some of the important steps the Spanish government has decided to take. Finally, in Chapter 8, I describe a fascinating study in which subjects who are explicitly instructed to be fair treat hypothetical employees less fairly than those who receive no such instructions.

4.

The motherhood penalty

There are fewer women at the top because they have a different work/life balance than men, it is claimed. Mothers' careers progress slowly because they are mothers -- because they have to spend more time on their children.



There's some appeal in this explanation; it seems intuitively correct. Mothers have greater childcare responsibilities than fathers. And while we may hope for a different division of labor some day, we speculate that these work/life realities explain why women who are mothers are on slower career tracks than men.

It's the realities of daily life behind the statistics that in fact explain the statistics. Correlation becomes causation. But that's a mistake in how we think. There's more to the story.

Men 4x More Likely than Women to be Full Professor

New evidence about women's careers is presented in the [White Paper on the Position of Women in Science in Spain](#). A man with children, the report concludes, is four times more likely to become a full professor than is a woman with children.

“When comparing men and women with the same personal and professional characteristics, the same academic productivity, and both with children, we see that having children affects women much more negatively: a man with children is 4 times more likely to be promoted to Full Professor than a woman with children.”

But instead of invoking the intuitive explanation mentioned above, the white paper emphasizes that women who have children are discriminated against simply because they are mothers and not because their job performance is actually different.

Researchers from Cornell University published evidence of this. The article [Getting a job: Is there a Motherhood Penalty](#), by Shelley J. Correll, Stephen Benard, and In Paik, appears in the *American Journal of Sociology* (2007).

Participants in their study rated fictitious job applicants by reading constructed files. Some resumés they read included *Parent-Teacher Association coordinator* as an activity, while others had *Fundraiser for neighbor association*. This had been shown by another researcher to successfully convey whether someone is a parent or not.

Harsher Standards for Mothers

The applicants were rated on competency and commitment, and the results are clear.

“Mothers were judged as significantly less competent and committed than women without children... Mothers were also held to harsher performance and punctuality standards. Mothers were allowed significantly fewer times of being late to work, and they needed a significantly higher score on the management exam than non-mothers before being considered hireable.”

As if this weren't enough, when they did hire mothers, the subject participants gave them a 7% lower starting salary than the non-mothers, and considered them less well-suited for future promotion. All this was determined on the basis of a paper file!

Having children does indeed correlate with career paths. Mothers are less likely to be promoted than men and they are also less likely to be promoted than non-mothers.

But this happens for irrational reasons; children do not cause this difference. The explanation is not simply that mothers work less because they have more to do at home. An important part of the explanation is that the very fact of being a mother is perceived as a disqualification.

Leadership in organizations must acknowledge implicit discrimination and must take specific steps to counter it. There are many possible strategies; [targets](#) are just one.

I remember a professor from graduate school speaking once about another graduate student who was expecting a child. He commented on her career simply by saying, “She’s made her choice.”

But maybe she hadn't; maybe we'd made it for her.

5.

The fatherhood bonus

The careers of different men progress at different rates. That's just as we would expect. Higher performers are rewarded; lower performers slow down. Our accomplishments guide our careers. Good workplaces are meritocracies -- do your job well, and you'll get ahead. That's what we believe.



Or, at least that's what we want to believe. But after a few years on the job, we start to wonder. Other factors seem to play a role.

What about parenthood? Does that matter when we get evaluated? Does fatherhood affect the careers of men? How are fathers perceived when we're asked to appraise them?

We know how it works for women. There is a motherhood penalty, and it's not related to performance; evaluation in laboratory settings of otherwise identical files in which the only difference is parenthood proves this claim. If you're a mother, that will affect how your job performance is perceived. Negatively.

Is there a fatherhood penalty, too?

No Fatherhood Penalty

It seems not. In fact, it seems that there's a fatherhood bonus.

Fathers don't simply outpace mothers in the workplace; they even outpace men who don't have children!

The report on the [Position of Women in Science in Spain](#) mentions some facts about the careers of men in academia. Men with children, this White Paper from the Spanish government notes, are more likely than those without children to be promoted.

A man who has at least one child is 1.7 times more likely to be a Full Professor than a man without children.

This finding is not unique.

In a study with kindred results, subjects were asked to read files of fictitious applicants for positions as an attorney. Among the male applicants, fathers were held to lower standards than non-fathers.

Fathers could get hired and promoted, in other words, even when their performance was worse than that of men without children. (Kathleen Fuegen, Monica Biernat, Elizabeth Haines, and Kay Deaux. 2004. [Mothers and Fathers in the Workplace: How Gender and Parental Status Influence Judgments of Job-Related Competence](#). *Journal of Social Issues*.)

In another study in which subjects rate files of fictitious applicants, the benefits of fatherhood were many. (Shelley J. Correll, Stephen Benard, and In Paik. 2007. [Getting a job: Is there a Motherhood Penalty](#). *American Journal of Sociology*.)

Applicants who were fathers were rated significantly more committed to their job than non-fathers. Fathers were allowed to be late to work significantly more times than non-fathers. Finally, they were offered significantly higher salaries than non-fathers.

Why do fathers get ahead?

Does fatherhood bring out the traits we value in a good colleague? At the very least, it seems that fatherhood enhances the perception of highly valued social skills. This is what Stephen Benard and Shelley J. Correll report in their article [Normative discrimination and the motherhood penalty](#) from *Gender & Society* 2010.

Compared to men without children, highly successful fathers are perceived as significantly less hostile, as more likable and warmer. Parenthood enhances the perceived interpersonal qualities of male but not female applicants. Fatherhood is a signal of positive interpersonal qualities.

As we learn about the enhanced careers of fathers, we realize that a different work/life balance cannot possibly explain slower careers for mothers. Fathers, after all, have a different work/life balance than their childless male peers. Yet that doesn't slow the fathers down.

Even if mothers spend more time on childcare than fathers, fathers nonetheless spend more time on childcare than non-fathers. If women are slowed down in their careers by the actual effect parenthood has on their daily lives, then we would expect to see the same effect slowing down fathers as compared to non-fathers. But we don't.

Other factors are at play. But what are they? Our perceptions, our stereotypes, our unconscious prejudices — perhaps these are the ingredients creating the bonus for fathers and the penalty for mothers.

If so, then these are the factors that have to be countered. Organizations that see the value of diversity — organizations that want to treat their employees fairly and on the basis of their actual performance — must be proactive in the face of what we

now know.

Careers are not built on merit alone. There is discrimination in academia; there is discrimination in law firms. Unfair bias surrounds us. The evidence is clear.

Only one question remains: What will we do about it?

6.

Peer evaluation is not objective

Academics believe that universities are meritocracies or at least that they should be. And we're not alone. Lawyers think the same about law firms. We all think that our workplaces should reward our accomplishments. If you're the best researcher, you should win the competition for funding; if you're the best lawyer, you should be promoted to partner.



The bad news, I'm sorry to report, is even worse than we might fear. Our systems aren't meritocratic — they simply can't be. On our own, we cannot avoid taking a rich set of factors into account, even when explicitly instructed not to.

As I learn more about careers in law, I am increasingly struck by the similarities to academia. And when it comes to peer evaluation, there is a growing body of research from both sectors showing that women and men are judged differently.

Impediments to Career Advancement for Women

If this is true, it means there are structural impediments to career advancement for women. Women are not underrepresented among professors and law-firm partners because they don't want those jobs; they are not underrepresented because they aren't good enough. They are underrepresented because they meet stumbling blocks that their male colleagues don't — and that's enough to hold them back.

Two studies — one from each sector — lead us to this conclusion. Both provide empirical evidence that reviewers, evaluators, and peers require more of women than they do of men. They show that men and women who are evaluated equally in fact have quite different profiles, and that the women have to do much more than a male colleague to be viewed as equally meritorious.

Monica Biernat, M. J. Tocci and Joan C. Williams demonstrate in their new paper *The Language of Performance Evaluations: Gender-Based Shifts in Content and Consistency of Judgment*, in the journal *Social Psychological and Personality Science*, that the evaluation of junior attorneys is carried out differently for men and women. The evaluation process yields a numerical ranking for a candidate, along with a written evaluation. The numerical ratings determined by male supervisors were consistently better for men than women. But the prose descriptions showed either no difference between sexes, or a difference that favored the women. (The article is also summarized on [The Careerist](#).)

In academia, one of the best demonstrations of the inevitability of bias is from the work of Christine Wennerås and Agnes Wold. They published a paper called [Nepotism and Sexism in Peer Review](#), in the journal *Nature*. Wennerås and Wold studied the evaluation forms filled out by reviewers who were rating applications for post-doc funding through the Swedish Medical Research Council. They

standardized the portfolios of the applicants and compared them based on the sex of the applicant. Their research demonstrates that women had to be 2.5 times as productive as men to be judged as equal to the men.

When I talk about quotas, I often ask audiences what their biggest objections to quotas are. One of the most common answers is that the introduction of quotas into systems makes those systems unfair. When you have quotas for sex, men and women are judged by different standards.

That claim is either exactly wrong or exactly right, but in either case, we can't be satisfied with the situation we have.

The claim is exactly wrong if it implies that our system today judges everyone on the same criteria; research such as that discussed above makes it clear that men and women are not judged by the same criteria today.

But the claim might be exactly right, if it means that we already have quotas. Men and women, after all, are demonstrably judged by different criteria. If that is the hallmark of a system with quotas, then we're already there.

But the quotas we have now are for men.

7.

Spain's big step forward

Spanish professors hold women back. The system is easier on men. Women have to do significantly more to reach the top.

This is the clear conclusion of the Spanish government's [White Paper on the Position of Women in Science in Spain](#). Men, the White Paper concludes, are 2.5 times more likely than otherwise identical women to become a Professor. (*Libro Blanco: Situación de las Mujeres en la Ciencia Española*)

“ *When comparing men and women of the same age, with the same amount of time since their PhD, the same field of knowledge and recent academic production in terms of articles and books published, as well as dissertations or theses directed, we see that the probability of a male Associate Professor being promoted to Full Professor is 2.5 times higher than that of a woman with similar personal, family and professional characteristics.* ”

Many countries have similar problems. In the United States, the [National Science Foundation](#) reaches the following conclusion.

“ *Research has shown that women's representation and advancement in academic STEM (Science, Technology, Engineering and Mathematics) positions are affected by many external factors that are unrelated to their ability, interest, and technical skills, such as:*

- *Organizational constraints of academic institutions;*
- *Differential effects of work and family demands;*
- *Implicit and explicit bias; and*
- *Underrepresentation of women in academic leadership and decisionmaking positions.* ”

The cumulative effect of such diverse factors has been to create barriers that impact the number of women entering and advancing in academic STEM careers. [Block unquote]

While it's no comfort to see that many countries share the challenges seen in Spain, it is inspiring to see the frank self-assessment offered in the White Paper, along with the passage of laws that will contribute to positive change.

In fact, the Spanish Parliament has imposed radical requirements on universities with its 2011 [Law on Science, Technology and Innovation](#).

This law forces a number of changes. Committees for assessment must now be made up of equal numbers of men and women. Procedures for awarding grants must institute a variety of measures to eliminate bias.

And perhaps even more radically, publicly funded research projects are now required to incorporate a gender perspective in all areas, ranging from research problems to methods to applications.

The law will also require researchers to take specific measure to increase the numbers of women in research teams. Within two years of the passage of this law, all universities and other research organizations must have Equity Plans that include incentives for improvement. (Maybe they could test my [Promotion Project?](#))

The Spanish Minister for Science and Innovation, Cristina Garmendia, must be proud of her Women and Science Unit, which worked on this law; it's a remarkable accomplishment on behalf of science in Spain and beyond.

Why is this important?

Spain has taken a leading position in Europe by acknowledging these goals, honestly assessing where it falls short, and then by passing laws to get beyond the sexism that currently exists. We'll be watching the coming developments with great interest.

The Positive Effects of Gender Balance

Minister Garmendia [claims](#) that “a greater presence of women in the world of science and technology is essential for scientific excellence and also for the economic development of the country”.

The body of research showing the [positive effects](#) of gender balance in teams is growing as is research showing the importance of gendered perspectives in science; one important resource is the [Gendered Innovations](#) website. More such research is available through [genSET](#).

Resources are being wasted in Spain and everywhere; women are in the majority of university graduates and their grades are better than those of their male colleagues. But they are underrepresented among those choosing research as a career -- exactly the career in which the best brains are the most important resource. As the authors of the Spanish White Paper write, “The presence of women at the highest level in science is not proportional to the number of women who are qualified, of the correct age, and have the necessary merits and motivation for these posts.”

The problem may seem very complicated, but in fact, [there are only three reasons](#) women don't make it to the top. We all believe that men and women should be promoted by the same criteria and that scientific communities should be unimpeded by structural problems in their quest to hire the best.

8.

The paradox of meritocracy

Everything we know about improving gender diversity points to one uniquely important success factor. Great programs notwithstanding and brilliant arguments in abundance, the pursuit of enhanced gender equality flourishes or flounders with the interest and investment of an organization's top leadership.



It could be the CEO of your company, the president of your university, or the director of your institute. Whoever is at the top has to care and has to support action. If we can't get our top leadership engaged, we probably won't succeed.

People who have made it to the top are creative. They might have different ideas about achieving diversity — ideas that sound good, but that probably won't work. How would that happen? What could we do in that situation?

To get top leadership on board, those individuals need to believe

in the cause themselves; they need to believe that gender diversity matters. We must provide the best arguments we can so the people at the top will care.

Some of those arguments conclude that increasing gender diversity is the right thing to do. Others suggest that it's the smart thing to do. Arguments elsewhere in this book build those perspectives.

Imagine that the people at the top of your organization are convinced and decide to act. We now have research available to tell us [what kinds of actions make a difference](#). Building on research, you can tailor a program for your organization.

Developing Gender Action Plans

And still, this isn't enough. Gender action plans — if they are to make a difference — require more than just the interest of the president or CEO; they require time and money. Programs to advance women and yield greater gender balance demand economic investments. And they demand hard work, too.

So what do we do when our bosses start looking at action plans and then make counter-proposals?

Instead of targeting women with complicated and expensive initiatives, perhaps they'll decide to target everyone and eliminate the most basic problems for all employees. The key, they might suggest, is fairness.

Let's develop a program that enriches our institutional values, a creative leader might say. Let's make it clear to every employee that our company is fair. Decisions are fair. Hiring is carried out fairly. Reviews give fair results. Promotion decisions must be based on fair evaluations.

If we could just heighten our awareness of fairness — if we could just act fairly — then we could eliminate all those unfair gender-based impediments along a career path, and diversity and balance will be achieved.

Progressive leaders might even have rich and liberal conceptions of fairness. They might see the “double shift” problem and think of onsite daycare as a fair initiative. They might see career interruption patterns and conclude that fairness forbids punishing pauses. They might genuinely have the best interests of the institution and all the individual employees at heart.

But there’s troubling research to consider. There’s research suggesting that some ways of emphasizing fairness actually give less of it. There’s research that concludes that explicitly advocating for a meritocracy can in fact undermine the recognition of merit.

Progress requires that we build on research — even when research yields surprising conclusions. Let’s look at one example, from an article called the [paradox of meritocracy in organizations](#).

Meritocracy in Organizations

The experiment analyzed in this article creates an artificial situation in which the participants evaluate files of fictitious employees at fictitious companies. On the basis of those files, they make recommendations about bonuses, promotions and terminations.

The goal is to see what happens when the only difference between two files is the gender of the employee. We learn that men and women with files that are literally identical are treated differently based on the description of the fictitious company.

Some of the made-up companies are described to the subjects as having a core corporate value of emphasizing merit in evaluations. In other cases, this particular value is not mentioned in the

description to the subjects.

What is the conclusion?

“ *When an organization is explicitly presented as meritocratic, individuals in managerial positions favor a male employee over an equally qualified female employee by awarding him a larger monetary reward.* ”

This is what the authors call the paradox of meritocracy.

The Paradox of Meritocracy

Much of their article is devoted to discussing the psychology of this paradox. They note, for example, that when people are led to believe that they are unbiased, fair or objective, they in fact are more likely to behave in biased ways. An individual who is allowed to explicitly disagree with sexist statements before an experimental task will then tend to act in a sexist way, recommending a male over an identical female candidate.

The paradox of meritocracy in organizations is a complex study and we have to think carefully about the conclusions we should draw. It seems, however, that explicitly deciding to be fair and explicitly taking action to implement fairness as a corporate value, does not necessarily lead to increased fairness. On the contrary, research suggests that it creates greater imbalances. And there’s much more than just this one article.

So what do we do with a president or CEO who wants increased gender balance but proposes a broader, more general strategy? Maybe it’s fairness, maybe something else. Keep talking. Keep building arguments.

But stop building them on anecdotes. Knowledge is on our side in this work, and research is the road to knowledge.

Part III:

How we can move forward

What could we do to make universities better workplaces? If part of the problem is due to the expression of bias, and if even heightened awareness of that bias isn't enough to eliminate it (and perhaps only makes it worse), then what do we need to do?

I want those *Curious Pete* students to make it. I want some of them to pursue university careers. And if they try, I want to make an effort to create working conditions that will let them focus on science and that will reward them fairly for their efforts.

In fact, I've been part of doing that. My own university, the University of Tromsø, was the worst university in Norway for gender balance ten years ago. At the rank of full professor, we only had 9% women at that time. Today, we are the best in Norway, with nearly 30%. Indeed, our Ministry of Education & Research singled us out for a [national gender equality prize](#) in 2011, on the basis of the project described below.

Chapter 9 gives a concrete list of how to tackle the work of improving gender equality and gender balance in your institution. Role models are important in this context and not everyone is equally good as a role model; the research on role models in chapter 10 shows that sometimes senior women are either seen as immeasurably successful or as having sacrificed too much. In both of those cases, they are not the kind of role model early career women need. Yet it's clear from the research that promoting the

right kinds of role models is very important.

Perhaps the most extreme intervention that is possible to improve gender balance is quotas. When I talk with people about quotas, they often tell me that quotas lower quality. For that reason, I was excited to read research publishing in *Science* earlier this year showing exactly the opposite: the possibility of using quotas and other kinds of affirmative action measures can actually attract higher quality women applicants. This research is presented in Chapter 11.

The research and perspectives I present in this book have been part of my personal journey, too. That journey led me in 2009 to develop a new project at my university, which we call the Promotion Project. This effort has successfully targeted about 50 associate professors and worked with them to move them towards the rank of full professor -- a rank that several have now achieved. The final chapter of the book describes the Promotion Project, parts of which also have been described in [Science](#), [Nature](#), [The Lancet](#), and beyond.

9.

6 steps to gender equality

It's easy to become a more diverse organization. And it's smart, too.



I've seen one example of dramatic change right here at the University of Tromsø: In 2007, only 18% of our full professors were women. Four years later, as a result of deliberate and explicit programs, we've increased that number by 50%! We now find [nearly 30%](#) of our professorial positions filled by women, well ahead of the [18% percent in Europe](#) but lagging slightly behind the [30% documented in the United States](#).

Maybe the next example of dramatic change will be in your organization. Could this be the year in which you and your colleagues take a big step forward in diversifying your workforce? Is this the year you will see more women at the top?

If you're ready to act, the following six steps will move you in the right direction.

1. Know the facts. What is the situation in your organization? How are the various job categories at your workplace divided between men and women? Are some already reasonably balanced? Are leadership positions as a category more skewed than others? How does your organization compare to its competitors in the same industry or sector?

If you're going to try to fix a problem, you must first be able to describe it. You have to know what the numbers were yesterday if you want to change them today.

2. Recognize that gender balance is not exclusively a women's issue. Convince yourself that the entire organization benefits when its workforce is more diverse.

This is a crucial step, and there are many resources you can use to develop your own thoughts. As I noted in [Why hire \(wo\)men?](#), important starting points include McKinsey's five *Women Matter* reports ([WM1](#), [WM2](#), [WM3](#), [WM4](#), [WM5](#)), Avivah Wittenberg-Cox's [books](#) *Why women mean business* (with Alison Maitland) and *How women mean business*, and recent research on the relationship between [gender balance and problem-solving skills](#) in groups. Additional resources include the [Consensus Report](#) from the European Commission's [genSET](#) project, Norway's [Talent at Stake](#) book, and the many good references in all of those works.

3. Get the leadership of your organization on board. It's crucial that leadership at the highest level embraces the importance of this issue. One of the central findings in *Making diversity work on campus: a research based perspective*, is that [diversity must become policy](#). "A first step in signaling an institution-wide commitment to diversity is for the top campus leadership to issue statements of support, purpose, and action."

Anthony Walesby echoes this when he writes in [HigherEdJobs](#), "The first and most important key to an effective and successful diversity office is institutional commitment." If the top leadership of your organization doesn't see the value of increased diversity, your road towards an improved workplace and improved performance is going to be much longer. This is why it's important to spend time on step #2, assimilating the best and most relevant arguments you can find.

4. Set specific and concrete goals. If your top leadership people come to see better gender balance as a tool for more effectively meeting the organization's objectives, they should articulate explicit goals. At my university, the Board of Directors set a goal of having 30% women in our top academic positions by 2013. They settled for 30% because their period as board members ends in 2013 and they considered this challenging but realistic when the goal was set in 2009. I hope the next Board will go for 40%!

When your institutional leadership sets explicit goals, the rest of the organization understands that action must be taken to try to meet those goals. Programs must be developed and implemented; progress must be measured. Goals such as *Become better or Increase our numbers* are not enough to trigger action. Get your leadership to use specific equality targets as leadership tools.

5. Identify individuals who are motivated to advance and invest in them. Gender imbalance in organizations usually increases as we move higher in the organization. Yet, the importance of gender balance in leadership teams is particularly well documented in the research mentioned above. To improve gender balance at higher levels, individuals who are motivated to move up must be identified. Who is qualified, or close to qualified? How can your organization create the necessary support structures around them so that promotion becomes realistic?

Gender imbalance at higher levels in organizations is not mysterious. I've suggested in previous chapters that there are only 3 reasons women don't make it to the top. The most significant barriers are structural, such as the subjectivity of peer evaluation or the implicit prejudice yielding a motherhood penalty. Identify individuals who are motivated to advance, and then develop strategies for maneuvering past structural barriers.

6. Create contexts for accountability. Organizations should

share their diversity numbers. Simple agreements with sister organizations to report to each other annually can increase their focus on achieving gender balance.

But reporting is not enough. Systems should be developed in which the achievement of goals, or not, has consequences for organizations. There must be accountability.

In Norway, to take one example, an accountability carrot has been introduced in the form of a significant cash prize for the institution of higher education showing the greatest progress in the past year. Your organization can propose a coalition for mutual reporting and a system of accountability that will motivate gender balance work. If the steps above have been taken, a competitive institutional leadership may even be eager to create contexts for accountability.

Increasing gender balance in organizations is about improving the quality of the workplace for everyone. Improving the quality of the workplace feeds institutional goals across the board. Making the value of diversity in a workforce visible must become an integral part of leadership development programs.

Of course, investing in women is not the only way to make organizations improve. We must invest in men, too. But it's clear from the skewed numbers at the top that women and men face different challenges in career advancement. It's clear, too, that men have managed to overcome their challenges more successfully than women.

We might speculate on why. Maybe men meet fewer challenges, or maybe theirs are easier to overcome. Maybe organizational structures created by men actually favor men.

Whatever the historical explanation may be, the forward looking questions are compelling and clear:

Is this the year you will increase your focus on the other 50% of your human resources? Is this the year you will move more boldly towards gender balance in your organization?

It isn't hard. Six simple steps will get you far. **Are you ready for the challenge?**

10.

Role models



Make sure your vision of a leader looks like you.

This is how Tara Sophia Mohr wrapped up her essay [Negotiation Tips: Take it from Women](#).

Mohr's advice reflects one of the traditional arguments for increasing the numbers of women where they are

underrepresented, namely the need for role models. For early career colleagues, envisaging advancement depends on seeing people like themselves in the positions they want to pursue.

What does a leader who “looks like you” look like? What kinds of role models do our colleagues benefit from finding?

Finding Role Models

At the CES2012 [Women in Tech panel discussion](#), senior women from Google, Flickr, Cisco and CNET, discussed role models. Jay Greene's report offers an intuitively plausible example of how social barriers can affect men and women differently, underscoring the importance of visible women.

“ A challenge for many young women in the [technology] industry is that it can be hard for them to reach out to older male colleagues to ask advice. There are societal constraints in a 25-year-old woman sending a note to a 45-year-old man wanting to talk about career options after work. ”

Stories and intuitions help us identify where research is needed. They also help us communicate to a broader public. So it's fitting that this kind of speculation is part of a panel discussion.

Ultimately, though, we need research. It's a fact that there are few women role models in senior positions in many professions. But it's a *conclusion* that we should work to repair this gender imbalance.

Conclusions must be based on the sound argumentation that can be built only on knowledge; conclusions should be based on research.

Is there research on the importance of role models? If so, what does it tell us?

Research on Role Models

The [Research Digest](#) reports on Penelope Lockwood's article [Someone like me can be successful: Do college Students need same-gender role models?](#) from the *Psychology of Women Quarterly*.

Female students, Lockwood demonstrates, are more influenced by the gender of role models than are male students. That is, female students report greater motivation after reading about an outstanding woman than they do when they read about an outstanding man. Male students are also inspired by reading about

successful people, but their level of inspiration is not affected by the gender of the person in the story.

Lockwood asked students to tell her about career role models. Female students tended to identify women while male students tended to identify men.

A difference was revealed when male and female students were asked if gender was a factor in their choice of role model. For the men, it was not. But many of the women identified a female role model because she had surmounted gender-specific challenges they anticipate facing themselves.

A supplemental perspective emerges in [Do female and male role models who embody STEM stereotypes hinder women's anticipated success in STEM?](#) in *Social, Psychological and Personality Science*. Sapna Cheryan and her colleagues demonstrate that we can raise the expectations of women entering STEM subjects (Science, Technology, Engineering, Mathematics) through exposure to role models.

Women tend to underestimate their potential for success in STEM. But those expectations can be modified. The conclusion of this study, however, was that gender does not matter as much as nerdiness.

Incoming women were not inspired by potential role models who were perceived as typical STEM folks. But incoming women did gain confidence from role models who contravened the stereotypes.

Women see themselves as outsiders in these subjects and they are influenced when they see that other outsiders can make it. People who are good in STEM areas are often portrayed in the popular media stereotypically, leading Cheryan et al. to warn that, “the proliferation of such stereotypical images in society may be

preventing the next generation of potential female scientists from believing they can achieve success in STEM.”

In a study specifically looking at the mentoring impact of women in leadership positions, similar results emerge. Crystal L. Hoyt and Stefanie Simon published [Female leaders: Injurious or inspiring role models for women?](#) in *Psychology of Women Quarterly*. They demonstrate that higher and more elite women in organizations are not the best role models for early career women; women in middle management are more inspiring. The women who are higher are too far down the path; they have achieved things that seem unachievable.

“*When performing in a stereotype-threatening domain, ingroup role models whose success does not seem attainable can have a less positive impact compared to ingroup role models whose success does seem attainable.*”

Not just anyone is a good mentor. When members of underrepresented groups start their careers, they see themselves as outsiders and therefore need role models who still look like outsiders. Early career women do need female role models, but it's more nuanced than that. They need female role models they can identify with.

We must keep this research in mind as we assess the diversity of our organizations and develop strategies for its further enhancement.

What can you do to provide your young colleagues with mentors who look like them?

11.

Affirmative action

New research demonstrates that when affirmative action programs are used, the quality of the applicants increases.



Affirmative action is often criticized as giving unfair advantages. Different people are evaluated by different criteria, which inevitably lowers the quality of the selected group, is the claim.

Diversity achieved through intervention is quality-compromising diversity, says the critic.

The logic behind these claims is not hard to understand, but it may be wrong.

Imagine that 100 students are going to be admitted to a university. If the historical trend is that 70 of them are men and 30 of them are women, and if affirmative action is implemented to increase the number of women to 40, the claim of detractors would be

that 10 men of higher quality are being left aside to bring in 10 women that otherwise would not have been selected.

One basic problem with this logic that I'll leave aside here is the dubious assertion that a process resulting in 70 men and 30 women is fair.

There's a more subtle problem with the claim that affirmative action compromises quality, and two recent articles in *Science* show that this claim is wrong.

In [*Ready, Steady, Compete*](#), Marie Claire Villeval focuses on gender differences in competitions. This can be seen in sports, where ['boys tend to outperform girls when racing against someone else, but not when running alone.'](#) In other words, competition changes the relative performance, either enhancing the performance of boys or reducing the performance of girls.

If girls are not motivated by competition— if they in fact avoid it — then reducing competition might have a surprisingly different effect than compromising quality.

What if women — even highly qualified women — opt out when they perceive too much competition?

When the level of competition is reduced, the hypothesis might go, high-performing women are increasingly likely to enter the competition. When they then win, it need not be at the cost of a higher-performing man; that man might only have won against a weaker pool.

A second *Science* article tests this hypothesis. In [*Affirmative action policies promote women and do not harm efficiency in the laboratory*](#), Loukas Balafoutas and Matthias Sutter run 360 subjects through four different repetitions of an addition task, in which they solve as many math problems as they can in three minutes.

The first time they do it, they are rewarded for each correct calculation. The second time they do it, they are groups of six — three men and three women — and only the two best performers are rewarded. The third time they do it, they can choose if they want to do it individually — and be rewarded for each correct answer — or in a competition — and be rewarded more if they are one of two winners. The fourth time they all do it in a competition again, like in the second round.

Affirmative action is introduced in the third and fourth rounds. In the third round, before they choose whether they want to do the task individually or in a competition, the women are divided into five groups and given different information about the competition. In the fourth round, everyone competes, and again there are these five different groups and models.

Group one is the control group; their competition is just like that in round 2.

Group two has quotas added to the competition: there will be two winners, as in round 2, but one of them must be a woman. In practice, this means that the best performing woman will always win, even if that means a better performing man is prevented from winning.

Group three experiences weak preferential treatment: when a man and a woman have the same score, the woman wins, and the equally well performing man may not. (Remember that there are two winners in each group. If a man and a woman tie for best, they both win in Group 3. But if a man and a woman tie for second best, then the woman joins the best performer as one of the two winners.)

Group four experiences strong preferential treatment: when a woman's score is even slightly less than a man's, she still wins, and the man may not. (If the man was best and the

woman next best, they both still win. If the man came in second and the woman was third, then she will win over him, if her score was very close to his.)

Group five has a requirement that at least one woman is among the two winners, but the scores are not manipulated. If the result of the competition gives no woman among the winners, then the competition is repeated until one is. (This could be like a requirement to re-do a hiring or promotion process if no women are on the short-list.)

What do we learn from this study?

Affirmative Action Increases Participation

In the third round, when subjects choose if they want to be rewarded for individual performance or for winning a competition, the number of men choosing competition is twice the number of women doing so in group one, the control group, where there is no affirmative action.

But when there is affirmative action, the number of women choosing to participate in the competition increases; this is most dramatic for the weak and strong preferential treatment seen in groups 3 and 4.

In the control group, with no affirmative action, only 30% of the women chose competition over individual evaluation; with strong preferential treatment, 70% do.

Think about what this means: when they can choose, women are significantly more likely to enter into a competition when affirmative action is in place. Not just weaker women; highly qualified women, too.

The impact of affirmative action on the combined talent of the

group of winners could go in two directions. Affirmative action could lower the collective talent of the winners if better qualified men are passed over by worse qualified women.

But affirmative action could also increase the overall talent of the group of winners if better qualified women now enter the competition.

These women could then join the group of winners based on their performance alone; the affirmative action measure draws them into the competition, but gender-balance in the competition is achieved without actually intervening to change any results.

Policy Interventions Can Improve Quality of Participants

The large increase in competition entry by strong female performers shows the potential of policy interventions to improve the quality of participants. It is also encouraging to observe that strong male performers do not respond to policy interventions in a negative way.

The research shows that the average ability of the group of winners is higher with some forms of affirmative action. And in this particular study, the authors note that ‘hardly any better-qualified men were passed over as a result of interventions.’ For example, in group 5, where the competition is repeated until there is a woman among the winners, it was in fact never necessary to repeat the competition.

Finally, after the four rounds of doing this task, the group was given a task that measured cooperation. The groups that had completed round four with affirmative action showed no less cooperation than those in the control group, where there was no affirmative action. Furthermore, the winners and losers in the groups with

affirmative action did not differ from one another in terms of how cooperative they were either. In short, the presence of affirmative action in a competition within a group did not negatively affect the ability of that group to subsequently perform cooperatively.

The claim that affirmative action, if implemented, necessarily lowers the quality of the selected group, is illogical. Indeed, the evidence from this study makes it clear that affirmative action for women as a *policy* can raise the overall quality of the winners without being unfair to the men.

What do these results mean for national and local policies? What do they mean for universities? I'd like to know your answers to these questions.

12.

The promotion project

Virginia Woolf suggested that a woman would more likely become a successful writer if she only had an annual stipend of 500 pounds and a [room of her own](#). Is that all it would take for women in academia to experience greater career success? Are there too few female full professors because not enough women researchers have rooms of their own?



Women associate professors do [more administrative work](#) than men, and perhaps in that context a room would help — a room that can be locked, as Woolf emphasized. But beyond that, I doubt that increased isolation yields career advancement.

Most of the barriers to gender balance at the top reflect problems in the system. In academia, this is clear from the [genSET](#) project. In industry, it's clear from McKinsey's [Women Matter](#) reports. Changing the system requires engagement, not isolation.

But there is one area in which women frequently tell me that they think the problem is more with themselves than with the system. They tell me that they have lower self-esteem than their male colleagues.

The Promotion Project

It's hard to know if this is true; the research is inconclusive. [Some studies](#) support the idea that women have lower self-esteem than men; [others](#) strongly dispute this generalization.

This issue is particularly present in discussions of promotion. In Norway, individual associate professors submit applications to be considered for promotion to full professor. Their department chairs don't initiate the process — the employee does. And women apply later in their careers than men. Why?

This may be a rational decision. Women may have perceived [the research](#) that Christine Wennerås and Agnes Wold published in *Science* a few years back. They showed that in Sweden, women applicants for post-docs in biomedicine had to have published twice as much as male applicants to receive the same score from reviewers. The Spanish study discussed in an earlier chapter reaches similar conclusions.

But the fact that women apply for promotion later than men could be the result of something else. It could be the result of low self-esteem. At the University of Tromsø, we've decided not to wait for more research on the causes; we've initiated The Promotion Project.

This is a simple project, designed to increase the confidence of individual applicants as they consider applying for promotion. The heart of the project is a trial evaluation, i.e., a simulation of the promotion process. The structure of the project is as follows.

1. We wrote to all department chairs and asked them to identify the women associate professors in their departments who have portfolios nearing that of what is necessary for promotion.
2. We invited these women to join our project, emphasizing

that it is intended for those who want to apply for promotion in the coming two years.

3. We gathered for a half-day seminar all of the women, their chairs, and their deans. During this seminar, we emphasized the importance of the project for the leadership and Board of the university, and we invited speakers with interesting stories to tell about their career paths. We also emphasized to the deans and chairs our expectation that they would support and facilitate the participation of their faculty members in this project.
4. We held a seminar for the project participants, focusing on the structure of an application for promotion. What does a good letter of application include? How is it structured? What will the committee do with it? How can you write in ways that will help them with their work? We talked about how to choose what to include in the application portfolio, and invited successful professors from different fields to reflect on the process, acknowledging cultural differences for promotion among different areas of research.
5. The participants then had a few weeks to produce an application portfolio having the same structure as a genuine application for promotion.
6. While they were working on the applications, the project coordinators were collecting from department chairs the names of external colleagues who would be likely candidates for evaluating each individual's application for promotion. Those individuals were contacted and were engaged, with compensation, to undertake an evaluation of one or more individual applicants, including a frank assessment of what the individual needs to do to

be prepared to apply for promotion.

7. During this period, we also advertised funds internally that faculties could apply for in connection with The Promotion Project. Each individual will have different needs to reach the necessary level for promotion. Chairs and deans would identify measures for individuals and apply for funding to support them. Relevant projects could include short-term buy-outs from teaching duties, statistical support, research assistance, data processing support, and more.
8. The results of the trial evaluations were conveyed to the individual applicants, who came together again in August for a seminar on how to use the evaluations to progress towards promotion. They work together with their chairs to map out a plan to reach full qualification and promotion.
9. Our project includes one simple measure to help the participants push their writing forward. In particular, we sponsored three [write-ins](#).
10. In these ways, we continue to support them and nudge them forward until the application deadlines for promotion.

The most explicit goal of this project is to increase the percentage of women full professors and docents at the University of Tromsø, to a new level of 30%. We have already succeeded, ahead of schedule; the percentage of women in these two job categories combined has now reached 35%. We will be close to a tipping point at which we will gain even greater benefits from nearing gender balance at the top of our system. And if we do that, women and men will be together, in the same room, to the benefit of science and education.

13.

Afterword

I hope that these essays have given you new thoughts and perspectives on the importance of working for increased gender equality and gender balance in your university. As I build the arguments here, I think in part of my peers in university leadership positions, optimistic that presenting research results can lead to change. But even more so, I think about promising young people considering careers in science; I think about the kids I saw at the Curious Pete press conference several years ago.

Universities are wonderful institutions, full of hope and excitement. But they are not perfect and when we see those imperfections, we should try to repair them. Academic careers are difficult, and the challenges that young men and women face are in some cases different. There are some structures in academia that impede women more than they impede men. It's our responsibility to change that. If we succeed, an up and coming generation of researchers -- both men and women -- will find a fairer workplace, and when they do, the universities where they work and the research they produce will be even better. And that is good for all of us.

Notes

Introduction: This story appeared as the introduction to my article [Scientific \(E\)quality](#) appearing in [Interdisciplinary Science Reviews 36.2](#), June 2011, a special issue on Gender in Science.

A slow thaw for women was published by University World News at <http://www.universityworldnews.com/article.php?story=20120710132712882>

The paradox of meritocracy was first published under the title Engaging CEOs in gender diversity by The Glass Hammer at <http://www.theglasshammer.com/news/2012/02/15/engaging-ceos-in-gender-diversity/>

Why women don't want to work at universities was published by The Guardian on their Higher Education Network at <http://www.guardian.co.uk/higher-education-network/blog/2012/may/24/why-women-leave-academia>

It also was published by Inside Higher Ed on their University of Venus blog at <http://www.insidehighered.com/blogs/university-venus/why-women-leave-academia>

Photo Credits

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3 Reasons: [Skelly B](#)

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The Motherhood Penalty: [EngineeringDegree.net](#)

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6 Steps to Gender Equality: [United Nations Photo](#)

Role Models: [Fouquier](#)

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Promotion Project: [peevee@ds](#)

About the author



Curt Rice is the Vice President for Research and Development at the University of Tromsø in Tromsø, Norway. During his tenure, gender balance among professors has improved from 20% women in 2008 to nearly 30% today.

Rice's work on improving gender balance has been featured in *Science*, *Nature*, *The Lancet*, and *The Guardian* and he is frequently used as a keynote speaker in this area. Rice was also a member of the Science Leaders Panel for the European Commission's genSET project.

In his capacity as a professor of linguistics, Curt Rice was the founding director of CASTL (Center for the Advanced Study of Theoretical Linguistics), the first Center of Excellence at the University of Tromsø.

Rice maintains an active community online at Curt-Rice.com where he writes articles about gender balance, open access and university leadership. His [LinkedIn group](#) has recently been launched to create a home for passionate debates on the impact of these topics for moving universities forward.

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