

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

Index

Key to index: n following page number indicates information in a footnote; Ap indicates information in the Appendix. Page numbers in bold refer to tables.

- academic career gap, for child-birth and child-rearing 135
- academic culture, negative consequences for women 84–6
- academic and family life, mutual exclusion of 88
- academic quasi-firms 119
- academic structure
 - actively discouraging women 84
 - arguments for change, effects of 144
 - female advisors feel powerless to change 150
 - and pregnancy 89
 - resistant to accommodating family needs 143–4
 - and time extension before tenure review 144–5
- active exploration, seen as male activity 40,42
- administrators, female, become substitute advisors 198–9
- admission tests, games theory 58
- admissions procedure, women lack strategy to deal with 79–80
- adolescence, girls' scientific interest discouraged 42–7
- adults
 - perpetuate masculinity and femininity beliefs 37–8
 - send differing messages to children 37
- advising, gender-related blockages to 78–9
- advisor–advisee relationships
 - colored by sex-role stereotyping 22
 - female experiences with male advisors 79
 - negative interactional patterns 78–9
 - in the Ph.D. program 77–81
 - power of advisors 77
 - quality of crucial to success 77–8
 - suggestion of conference participation 96
- advisors 248
 - contradictions of the job 148–52
 - female administrators substitute as 198–9
 - legitimation by 96–7
 - men can be successful 80–1
 - older female
 - may not understand needs of female students 185
 - tendency to forget insecurities 185
 - relationship with crucial 100–1
 - role of complex 149
 - style relates to earlier mentor relationship 147–8
 - suggestion of conference participation 96
 - younger male, more collaborative style 153–4
- affiliation 60–1, 190
- affirmative action
 - currently in retrenchment 228–9
 - does not insure minorities with right credentials 229
 - increases then denigrates women and minorities 227–8
 - results not always as expected 227
 - to increase number of women and minorities in science departments 106
- anomie, experienced by women graduate students 73–4
- anti-discrimination legislation, seldom fully enforced 226
- anxiety
 - coping differences 75–6
 - and finishing the program 97
 - may escalate into self-blame 94

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

270 INDEX

- 'apartheid system', gendered 86
- assimilative strategies, used by girls for
 - adaptation 41
- AT&T program 194–5, 196–7
 - industry on side of female students 194–5
- attitudes, come from top down 180, 199
- Austria, female scientists and gender
 - dynamics 212–13
- autonomous functioning, requirements for
 - development 86
- Barber, Leslie, reflections on mixed
 - experiences of male and female peers 1–2
- belonging and identity, problems of for
 - women 58
- bench science
 - pressures on women 27
 - success related to ability to adapt 27–8
- biological sciences, attitudes to women
 - changed 112
- bottom up programs 189–93
 - characteristics of social movements 189, 190–1
 - flexible and low cost 192
 - weaknesses of 193
- boundary heightening 109
- boys, young, negative views of women
 - scientists 34
- brain development, and female
 - characteristics 46
- Brazil, female scientists, significance of
 - traditional gender roles 206–7
- bridging ties 168–9, 168n, 254–5 Ap
 - men's and women's 170–1
- Bulgaria
 - access to a scientific career 218–19
 - gender division of intellectual life persistent 218
- career choice, women diverted from academic
 - and research tracks 6
- career plans, affected by gender socialization
 - 47
- Carson, Rachel
 - biologist and author 21–2
 - research career stunted 21
 - shows new type of scientific career 21–2
- cascade effect 16, 133
- challenge 55
 - moral and intellectual nature of 54
- change
 - normative, too slow 244
 - resistance to 142–5, 236–7
- child care 217, 245–6
 - a concern for academic parents 142
 - effects of expansion 216
 - traditional support
 - Mexico 208
 - Turkey 205
 - U.K., proposed expansion of 222
- child-bearing strategies, Finnish women
 - 214
- Cinderella effect 99
- co-authors, and research success 176
- cognitive capital 117
- colleagueship 159–60
 - lacking for female scientists 137
 - lower levels of for women 161–2
 - reciprocation 160
 - social support or friendship 159–60
- College Board examinations 7–8
 - courses and tutoring for 8
- college teachers, should encourage female
 - students 62
- Columbia 204
- competition, for grades, male testing process
 - 55
- conferences
 - critical informal transition point for
 - students 100–1
 - introductions outside the department 96
 - positive effects on careers 97
 - role in socialization of female scientists
 - 95–7
- confidence-building, through conferences
 - 96–7
- courses
 - core of college education 51
 - evaluation role 51
 - examination, as a sorting mechanism 51
 - mathematics, attitudes influenced by
 - parental perception 44
 - official purpose of 51
- Crick, Francis *see* Watson, James and Crick, Francis
- critical mass 106, 162, 240
 - and balanced strong tie development 165
 - can change male attitudes 111
 - changing academic cultures 237
 - contradictory effects of 107
 - and division of women into sub-groups 111

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

INDEX 271

- fails to equalize social and professional ties 163
- improves social support and identity enhancement 163–4
- is it sufficient? 110–11
- made meaningless by isolation 245
- magical statistic and false numbers 106–7
- not achieved through affirmative action 244
- only works in democratic departments 245
- paradox of 244
 - overcoming problems posed by 245–6
 - reliance on difficult 112
- critical transitions 26, 69–81
 - and female scientific careers 101
 - from student to research environment 69
 - in graduate education 69
 - informal 100
 - Ph.D. level 69
- cultural lag
 - myth of the individual scientist 119
 - used by male faculty members against female students 71
- cumulative disadvantage
 - and additional disadvantages at the margin 237
 - and advantage, Matthew effect vs Cinderella effect 99
 - rooted in differential socialization of men and women 91–5
- Curie, Marie 17
- demand side, effects on women's entry into science/engineering 13
- Denmark, female scientists, impact of motherhood on scientific careers 217–18
- departmental change, initiatives for 187–201
 - strategy for departmental reform 199–200
- departmental cultures
 - changes when key male acquires feminist values 181
 - negative and positive 179–86
- departmental networks
 - gender differences in 164–6
 - intermediate number of ties 164
 - large number of ties beyond 164
 - strong department contacts 166
 - too many or too few contacts 165
- departmental reform 199–200, 226, 241
- departmental relationships
 - gender differences in quality of 160–4
 - more difficult for 'token' women 163
 - and social capital 158–60
 - women carry double burden 163
- departments 132–3
 - avoidance of change 242
 - change must come from those in power 247
 - culture and organization important in reform 183
 - division into subdisciplinary groups 111
 - hidden inequities 226–7
 - instrumental 179–80
 - more women, positive effects not always there 177
 - overt procedure covers hidden decision-making 229
 - policy recommendations for 241
 - relational 181–3
 - senior scientists as social capital bankers 122–3
 - strategy of attracting highly qualified women 197
 - university-wide innovation, may change policies 242–4
 - women faculty members, divided into sub-groups 105
- developing countries, women in science 204
- Dimant, Stephanie, *New York Times* letter 27
- disadvantage
 - accumulation of 91–5
 - and organizational reform 236
- dissertation, transformation of 71
- distribution requirements, US education system 8
- diversity committees 243–4
 - objectives 243
 - payment for work on 244
 - staffing of 243
- diversity reviews 243
 - assess track record and current gender balance 243
- doctoral education
 - basic social unit of 72
 - see also Ph.D. program
- double-bind situation, for women 58–9, 249
- dual career families 233–4
- economic competitiveness 226
 - and female scientists 231–2

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

272 INDEX

- economic deficit, from failure to use all talents 226
- economic and structural barriers, recession 24
- emotional energy, to deal with harsh social environment 93
- equality
 - of representation, in the scientific professions 247
 - of treatment
 - differentiates against women 54–5
 - private sector, may overflow into academia 235–6
- equity, a moral and legal imperative 226–9
- Europe
 - gender dynamics in 211–18
 - investment in education not realized 211–12
 - southern
 - problems for women scientists 209
 - will women's expectations be successful? 221
- exclusion
 - by departments, an undermining experience 138–9
 - due to parochial ways of U.S. science 241
 - effects of
 - explicit and implicit 244
 - on faculty members 157–8
 - of female minority by male majority 60
 - from informal sources, Turkey 205
 - from social ties network and critical mass 123–4
 - of Italian women from upper-level positions 214–15
 - for women in scientific careers 116
- extended family, supports women scientists 203
- faculty appointments, problems for women after 16
- faculty attitude, towards women's competency 69–71
- faculty members
 - critical role in persistence of women 61–2
 - no difference between men and women in work experience 171–2
 - no statistical difference in education levels 172
 - relationships among 177
 - see also* male faculty members; women faculty members
- faculty status, job search, social capital and gender 133–5
- families, and the scientific career 27, 141–2, 172
- family commitments, factor in colleague evaluation 87–8
- female scientists
 - achieving faculty status 132
 - adherents of the male model
 - Brazil, make male bias worse 206–7
 - rethinking their position 151
 - tension with younger female faculty members 184
 - areas of gain 203–4
 - assuming responsibilities for minority status 140–1
 - careers
 - choice versus personal aspirations 15
 - versus family 134–5
 - versus relationships 135
 - contemporary dilemma of 15
 - devaluation by non-inclusion in professional events 84–5
 - in developing and semi-industrialized countries 204–11
 - driven to defensive research strategies 16–17
 - early onset of feelings of isolation, insecurity and intimidation 59–61
 - equals of male peers available for recruitment 238
 - first year
 - establishment of relationships essential for self-confidence 61–2
 - need for affiliation 60–1
 - as 'honorary men' or 'flawed women' 2–3
 - invisible or conspicuous 86
 - and legitimization of an alternative model 241
 - must understand critical role of advisors 248
 - negative treatment effects carry over 140
 - older
 - earlier solutions/mechanisms no longer relevant 249
 - now more able to reveal past experiences 244–5
 - share values and work styles of older men 105
 - post weed-out, mentoring depends on academic institution 62–3

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

INDEX 273

- scientific heroines 17–22
- some indication of change among 131–2
- the ‘two-body’ problem 134
- UK, access to highest levels of political leadership 223
- see also* women faculty members; women graduate students; women in science
- Finland, female scientists, a ‘motherhood myth’ 213–14
- ‘flying universities’, training for nineteenth century women scientists 17
- Fox-Keller, Evelyn, effects of lack of social capital 127–8
- Franklin, Rosalind 167
 - crucial evidence of DNA structure 126
 - exclusion from a Nobel Prize 125–6
 - and James Watson 20
 - prototypical isolated female scientist 126
 - relatively unacknowledged by male peers 21
- funding pressures, effects on advisors 149–50
- gender
 - paradoxes for women 46–7
 - role reversal 23
 - and scientific ability 79, 98
- gender bias
 - counter to ideals of equity 222
 - from older female faculty members 140
- gender differences
 - defined in terms of narrow cultural norms 41–2
 - in departmental networks 164–6
 - in departmental relationships 160–4
 - in the early years 37–8
 - in interdepartmental networks 166–9
 - no fundamental disparity in personality structure 72–3
- gender disparities, Harvey award lecture (1997) 23
- gender dynamics, European experience 211–18
- gender parity, spur to cultural change 66
- gender roles
 - affected by broadening experience 38
 - and choice to do science 47
 - culturally defined, persistence of 31
 - hidden meanings solidified in adolescence 42–3
 - perceived as ‘all or nothing’ categories 38
- gender schema
 - construction of 34–5
 - processing dependent on social context 36
- gender and sex, concepts easily entwined 31
- gender socialization
 - and undergraduate science education 53–9
 - women forced into conflict with 56
- gender-role systems, opposition between two embedded categories 55–6
- gendered choices 32–3
- generational attitudes, in instrumental departments 180
- generational change 226, 233–6
 - introduces stress into the system 234–5
 - limits to 234
- German Democratic Republic, former, female scientists’ careers impeded 218
- Germany
 - gap between men and women in science 221
 - high level of social capital among scientists 101
- girls, interest in science discouraged during adolescence 42–7
- graduate education
 - in critical transitions 69
 - expected behavior 91–2
 - female students as ‘rugged individualists’ 71–2
 - women need more information prior to entry 247–8
- graduate experiences, a summary 101–3
- graduate research apprenticeship model, for a fortunate few women 49–50
- graduate school
 - choice limited for women 135–6
 - counterproductive for women 85
 - informal social relationships, inclusion important 101
 - quality of experience 123–4
 - smaller number of women entering 11
 - a social-psychological milieu 102–3
- graduate women’s programs, interpretations of 46
- graduation 7
- Greece, female scientists and traditional gender roles 209–11
- Hawaii, maths, high performance of non-Caucasian girls 45

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

274 INDEX

- high school, the social scene 7
- higher education
 - Brazil, growth of female students 207
 - Finland, women lagging in higher teaching positions 213
 - Greece, militates against women in science 210
 - United States *see* United States higher education system
- human capital 117
 - little difference between men and women 171
 - of women scientists, denigrated 16
- Hungary, integration of women into research 219
- hyper-competitiveness, of male scientists 242
- idiosyncratic programs 197–9
- In-balance program, Center for Particle Astrophysics, Berkeley 236–7
- indebtedness, in social networks 121–2
- India 204
 - female scientists more productive 203
- inequality, between men and women in science, studies and reports 224
- informal channels, for dissemination of news 125
- informal exchange 190–1
- informal transitions, role of conferences 95–7
- insecurity, and negative feelings 92
- institutional accommodation
 - available for business purposes 142
 - needed by women to combine family and career 142–3
- institutional reform, benefits men and women 233, 242
- instrumental departments 179–80
 - generational attitudes 180
 - interpersonal interactions minimal 181–2
 - low morale and high isolation of women in 179
 - power structure in hands of old eminent males 180
- instrumental style, of advisor 148, 152–3
- interdepartmental networks, gender differences in 166–9
- interdepartmental ties
 - importance in women faculty careers 166–8
 - men's and women's, patterns of 170–1
 - see also* Watson, James and Crick, Francis
- Ireland, science seen as possible girl's career 48
- isolation 101–2, 157
 - begets isolation 140
 - of female students in male-dominated research groups 111
 - major issue for women at academic level 116
 - overcoming the effects of 100–1
 - perpetuation of 107
 - professional, of post-graduate women researchers 116
 - and reduction of opportunities 83–4
 - of women
 - by organizational structures 110–11
 - in instrumental departments 179–80
- Israel, female scientists, a few women at the pinnacle 216–17
- Italy, female scientists, persisting marginality 214–15
- Japan, demographic decline opening doors for women 232–5
- job search 133–5
 - career detours held against women 135
 - geographical mobility barriers 35–6
 - impediments for women 133–4
- 'kula ring' of scientific success 115–30, 159, 177
- laboratories
 - 'degradation ceremonies' for women 80
 - lateral social organization in 154
- Lane, Nancy 223, 224
- law suits, for gender discrimination 246
- leadership succession, crucial for successful programs 191
- life-course events 87–8
 - may coincide with academic transition points 87
- loneliness, of female faculty members 138
- Luce professorships 240
- McClintock, Barbara 127
 - an outsider operating with competitive disadvantage 128
- majors, U.S. educational system 8–9
 - engineering/science 9
 - avoided by women 47

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

INDEX 275

- exclusion of women from upper levels 53–4
- male autonomy, illusion of 72–3
- male faculty members
 - more likely to have children 172
 - social ties superior 162
 - young, interested in more gender-inclusive networks 177
- male graduate students
 - attitude to women's scientific ability 98
 - and the unofficial Ph.D. program 73
- male scientists
 - changing values of new generation 148
 - effects of attempts to reduce marginalization 245
 - wish for better personal-professional balance 24
- managerial responsibilities, of today's academic scientists 119
- marginal disadvantages 91, 237–40
- marginalization, of women 221
- marriage
 - and family, adverse effects on women's scientific career 88–91
 - a limiting factor 136
- math anxiety issue 43, 44
- mathematics 44
 - concepts understood equally at any age 43
 - developing countries, women in 204
 - Greece, increased number of women in 210
 - Hawaii 45
 - Hungary, women in 212
 - test performances 48
- Mayer, Maria Goeppert
 - career on the margins of U.S. academia 19–20
 - encouraged by Enrico Fermi 20
 - place in the Manhattan project 20
- Mead, Margaret and Metraux, Rhoda, study, girls' rejection of science 47–8
- medicine, U.S., increase in female students 5–6
- Meitner, Lise 17–19
 - always an outsider 19
 - excluded from the Nobel Prize 19
 - informal guidance by 18–19
 - supported by Max Planck 18
- mentoring
 - arranged, enlarges women's access to social capital 239–40
 - by better male scientists 245
 - by powerful women 112
 - either sex may have requisite attributes 248–9
 - post weed-out, assured for men but not for women 62–3
 - University of Washington program 193, 194
 - women's undergraduate success ascribed to 102
- Merton, Robert K., on long-term relative exclusion of women from science 25
- Mexico, female scientists
 - come from well-to-do highly educated families 207–8
 - effects of gender socialization 207–8
 - seldom found in high level posts 208
- military service
 - effects of 203
 - Portugal, women, increased scientific opportunities 209
 - wars offer opportunities for women 229–30
- minorities
 - easy to marginalize 106
 - must attain power to overcome resistance 109
- Mitchell, Professor Maria, women's scientific aspirations 225
- mobility barriers 35–6
 - greater for Greek women 210–11
 - for women 135–6
- National Science Foundation
 - dilemma of too few women in science, solutions for 230
 - loss of funding for discrimination against women 246
 - program of visiting professorships for women 240
 - shortcomings of immigration and recruitment policies 230–1
- national societies
 - informational and support networks 66
 - other strategies 66–7
- Netherlands, The, female scientists, a continuing dilemma 215–16
- networking, at conferences 96–7, 99
- networks
 - benefits of 116
 - differential effects on men and women 115–16
 - opening up to women 244
- Norway 48

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

276 INDEX

- nuclear family, strains on women scientists 203
- nurturing environment, for a few women in college 49–50
- obstacles, encountered by scientific women 22–3
- old-boy networks, entrenched, power of 182, 183
- organizational structures
 - reform of 236
 - resist full female participation 225
- organizations, of women scientists and technologists, strengthening member's social ties 224
- ostracism
 - and the breaching of gender uniformity 108
 - professional and personal, unanticipated at faculty level 137
- parental leave 245–6
- parents, behavior influences gender awareness 38
- peer acceptance, and conformity 42–3
- personal worth, erosion of 93
- personal–professional conflicts for women 26–9
- Ph.D. program
 - based on courses 9–10
 - finding an advisor 77–81
 - finished by women 97–8
 - needs of upper classwomen not met 98
 - preparation for research 10
 - qualifying examination 10
 - unofficial 73–4
 - less open to women students 73
 - women excluded from study groups 74–5
 - vertical and lateral transitions in 95–7
 - quality of experience as important as numbers 100
 - transformed to a group effort 71
 - women unable to be assertive and risk taking 85
 - women see graduate school as stressful for male peers 93–4
- Ph.D.s
 - attainment of under relative isolation 100
 - Portugal 209
 - science and engineering, women's share of 11, 11
 - women encouraged by fathers 32
- Philippines, the 204
- physicists, young, effects of political change 2
- pipeline thesis
 - double-binds for women 249
 - for improving women's participation in science 5–14
 - 'leaky joints' 5
 - women leave, at disproportionate rates 6, 50
- pivotal jobs
 - defined 238
 - women's recruitment to 238
- Poland, integration of women into research 219
- Portugal, female scientists, and loss of males 208–9
- post-doctoral fellows 98–100
 - good and bad experiences for women 99–100
 - women may select on non-professional grounds 99
 - women's careers harmed 98–9
- post-secondary education 8
- power imbalance 160–2, 163–4, 254Ap
 - and publication rate 173, 174
 - and tokenism 160
- pregnancy
 - always the wrong moment for 142
 - and child-rearing, and younger professors 154
 - and choice of advisor 69
 - a disadvantage at critical transitions 87
 - may sometimes be taken into account 90
- problems, aired but not resolved 195
- professional identity 160–2
 - and collegiality 159
 - denied 137
 - neglect hurts development of 138
 - and social identity 248
- programs
 - important role of 244
 - informal, grass-roots 200–1
 - provide support, guidance and an independent perspective 188–9
 - qualities needed in a leader 195
 - and quality of women's educational experience 187–9
 - support from above necessary 196
 - women's programs 66
- qualifying examinations (Ph.D.)

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

INDEX 277

- closest to a gender-neutral element 76
 - effects on women 75–6
- qualities, of femaleness and maleness, not rigid 46
- quota hires 228, 229
- ‘Re-entry’ program, University of California, Berkeley
 - funded outside the department 192–3
 - success of 190
- reciprocity/reciprocation 160
 - between contacts 129
 - lower levels of for women 161–2
- relational departments 181–3, 200
 - attraction of interpersonal interactions 181
 - effects of cooperative atmosphere 181
 - importance of sympathetic leadership 182
 - improved quality of life for women 200
- relational style 148, 153–5
 - emphasis on collaboration and community 154
- research
 - Austria, women in positions of importance helpful 212–13
 - importance of bridging ties 169
 - lab relationships important for strategy 154
 - Netherlands 216
 - in out-of-the-way fields 130
 - productivity and social capital 173–6
 - success of today’s projects 120–1
 - in the U.S. departmental model 71
 - women participate most in areas of fastest growth 212
 - women in, Spain 220
 - women’s, presentations in safe environments 191, 192
- risk taking, women lack support for 86
- role models 13–14, 105
 - complexities of being 148
 - felt to be lacking, female Ph.D. students 87
 - for role models 247
 - stressing positive or negative sides? 13
 - through removal of barriers 237, 238
- Rossi, Alice 1
 - on marriage, parenthood and career 247
 - ‘technical fix’ alternative 216
 - on young girls with high ability 44
- Science: The Endless Frontier*, Vannevar Bush 118–19
- Science*, article, biological male superiority and standardized testing 45–6
- science
 - academic, negative female image of 137
 - conditions for successful career in 124
 - continual departure of girls and women from 155
 - covert resistance to women persists 221–2
 - dual male and female worlds 137–46
 - resistance to change 142–5
 - tenure 141–2
 - tenure stress 145–6
- emergence of female-gendered subfields 112–13
- foreclosing on women’s choice to do 47–8
- gender inequality and shortage 229–31
- girls’ interest discouraged during adolescence 42–7
- graduate experience in 83–103
- hampered by long-term relative exclusion of women 25
- high-level careers for women to be seen as normal 237–8
- interpersonal networks differ for men and women 17
- lagging in its inclusion of women 2
- low status, aids women’s participation 203, 205–6
- male culture makes women invisible 99
- non-sexist framework, incorporating male and female perspectives 249–50
- open to all talent, an emerging picture 241
- paradox of women’s participation 203–4
- permeated by male standards of behavior 26
- personal qualities needed for success changing 26
- relationship to other spheres of life should be rethought 247
- seen as ‘masculine’ 31, 32
- sociology of is moving on 241–2
- stereotyping of in the primary school years 38–42
 - boys, use of negative/inappropriate behavior 40
 - compliance by girls costly 40
 - enlightened parents dismayed at sexual stereotyping 39
 - girls, teachers less responsive to 39–40
 - girls tend to avoid lack of structure 41
 - masculine image already established 38–9

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

278 INDEX

- science – *cont.*
 - teachers dismayed at unconscious stereotyping 39
 - teachers encourage scientific skills in boys 40
 - teachers influence perceptions of scientific ability 40–1
 - university science becoming more entrepreneurial 235–6
- ‘Science is for Childless Women’, letter, *New York Times* 27
- science teaching, U.K., to take gender differences into account 223
- science/engineering
 - bachelors’ degrees, increased number to women 10
 - impersonal teaching environment, effects of 65–6
 - projected shortages did not happen 230
 - to succeed women must follow male model 58–9
 - women feared consequences of bringing actions 107–8
- scientific achievement, high, fallacious notions 25–6
- scientific activity, lack of full membership, effects of 139
- scientific careers, new types of 21–2
- scientific contributions, women’s, widespread devaluation of 84
- scientific heroines 17–22
- scientific identity, secure, creation of 85
- scientific innovation 120
- scientific mobility 232
 - works against exclusion of women 232
- scientific production, new order of 118–21
 - pivotal role of social capital 119–20
- scientific productivity
 - at odds with family life 150
 - Israeli female scientists 216–17
 - of Italian women 215
 - measurement of 253–4Ap
 - of Mexican women 208
 - and social capital 252–3Ap
 - women more frequently cited 242
- scientific role
 - alternative 105
 - alternative career model crucial 144
 - division along generational and gender fault lines 105
 - scientific role and workplace, gender-neutral, need for 23
- scientists
 - exchange of ideas, resources and information 115
 - image of 47
 - mature/distinguished, emotionally constricted and controlling 180
 - senior
 - deposit social capital with protégés and fellows 123
 - enhancing prestige and power 123
 - as social capital bankers 122–3
- scientists, concept of, very young children 33–7
 - counteracting stereotypical notions 37
 - early gender differences in perception of 33
 - girls, see scientists as doctors 36
 - indicators of change 36
 - linking occupations with sex 35–6
 - power of popular culture on gender images 36
 - sex-typing 34
- selection mechanisms
 - covert purposes 51–2
 - overt purposes 51
- ‘self’
 - destructive impact of socialization 46
 - influenced by those close to the child 33
 - perpetuation of femininity–masculinity ideals 33
 - possibility of self-limiting constraints 33
 - social creation of 32–3
- self-confidence
 - erosion of in graduate school 83, 92
 - of first year female scientists 61–2
 - lack of 109
 - low, increased attrition rate 92–3
 - and a scientific self-identity 183
- self-definition, through role as advisor 148
- self-in-science, certainty about lost 60
- self-worth, enhanced feelings of 129–30
- sexual harassment
 - and critical mass 107
 - important to be stringent on 197
- shortage, effects of on women 226, 229–31
- sociability, and success in group research 26
- social capital 116–17, 117n
 - accumulation often gender-linked 118
 - and bridging ties 169
 - critical when evaluation is equivocal 122
 - defined 117–18
 - and departmental relationships 158–60

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

INDEX 279

- distribution of at conferences 100–1
- DNA and gender 124–8
- and faculty network relationships 156–77
- gender differences, and human capital
 - differences 171–3
- importance of in scientific production
 - today 120–1
- mobilization of in scientific careers 121–4
- pivotal role of 119–20
- raising of 128–30
- and research productivity 173–6
- role increases in a non-linear fashion 118
- and scientific productivity 252–3Ap
- weak and strong ties 124
- women have less access to 16
- women's access to through arranged
 - mentoring 239–40
- social capital banks 130
- social networks
 - access to exclusive information 130
 - contain social capital that can facilitate success 122
 - and critical mass 111
 - defined 160
 - differences in shape level of social capital 116
 - exchange of ideas, information and resources 121–2
 - exclusion of women sends negative messages 122
 - quid pro quo of exchange 121
 - structure of, an underlying barrier to success 176
 - widened if in pivotal jobs 238–9
 - women need strong local ties and many bridging ties 169
 - women's, poorer in social capital 171
 - see also* networks
- social science, help in resolving the too few women in science dilemma 230
- social support 160–2
 - from social ties 159
 - via networks 129–30
- social ties
 - closer in the male world 158–9, 159–60
 - women with male colleagues 159
- socialization
 - diverging experiences of young men and women 55
 - and education of girls, should this be changed? 57
- female, traditional
 - effects of exacerbated 95
 - not compatible with graduate school 91–2
 - and political strategies for advance 79–80
 - and status as male or female 42
 - of young females and males 46
- socializing processes, and differences in
 - cognitive strategies, boys and girls 41
- societies, neglect talent to their detriment 231
- sociological anomie,
 - anxiety–isolation–purposelessness feelings 74
- Soviet Union, former, position of female scientists 219
- Spain
 - academic harassment by men 220
 - women advancing in an expanding system 220
 - women's entry into engineering 220
- standardized testing
 - effects of 'biological male superiority' article 45–6
 - gap in gender differences narrowing 45
- stress, and coevolution of family and work 234–5
- strong ties 124, 165–8, 168n, 254–5Ap
 - too few or too many 174, 176
- study groups, women's exclusion from 74–5, 102
- subfields, female-gendered, emergence of 112–13
 - direction of women to 112
- supply side, fallacy of 12–14
- support schemes
 - function as social movements 189
 - origins and development of 189–90
- survey
 - control variables 255Ap
 - dependent variable 253–4Ap
 - independent variables 254–5Ap
 - methodology 251–2Ap
 - regression analysis 252–3Ap
- Sweden, research funds attracting junior researchers 232
- Taiwan, influence of stereotypical images 48
- teachers, importance of to young girls 44
- teleworking, proposed in U.K. 222

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

280 INDEX

- tenure 141–2
 - allows slower pace only in later years 141
 - definitive goal for all junior faculty members 145
 - uncertainty of impedes much-needed relationships 145–6
- tenure clock, slowing of 247
- tenure clock–biological clock contradiction 141–2
- tenure reviews, credit for mentoring and role modeling 246
- tenure stress 145–6
 - eased for male faculty members 162
- tenured women, relationships with junior faculty women 145
- Tilghman, Shirley
 - ability to adapt to competition 28
 - students felt unable to follow her example 28
- time pressures, and the competitive environment 28–9
- token overload 160, 160–2, 254Ap
 - and publication rate 173
 - women compensate for false perceptions 162–3
- tokenism 63, 163, 246
 - double disadvantage 164
 - effects of
 - demographic group power thesis 110
 - group interaction perspective 109–10
 - fewer bridging ties reported 170
 - promotes too many or too few strong ties 166
 - status as token woman 140–1
- top down programs 193–7
 - could be made more effective 197
 - could be utilized for change 195
 - create monetary incentive structure to promote change 196
 - difficult to implement 196
- transition points
 - seen as threats 101
 - significant decrease in women at each 105
- transition processes, affected by degree
 - program structure 70
- Turkey, female scientists
 - class is stronger than gender 205–6
 - many of same informal barriers found 205–6
 - upper class women needed to fill
 - professional positions 205
 - women and ‘kemalist’ ideology 205
- undergraduate education, major a part of 9
- undergraduate schools
 - benefits of working under other women 63–4
 - may teach survival techniques for graduate school 64
 - women’s colleges give greater self-confidence 63
- undergraduate science education, and gender socialization 53–9
- undergraduate teaching assistants, small state university college 64–5
- United Kingdom
 - dependent and independent tracks 221
 - experiences of women in science 221–4
 - Forum on Gender Policy for British Science (1995) 223
 - gap between men and women in science 221
 - government, gender and science 222–4
 - ‘Oxford Revolt’ 222–3
 - paucity of women in high-level scientific positions 12, 222
 - position of women in science and engineering 12
 - The Rising Tide*, report and recommendations 222
 - suggested strategies 222
 - University College London, a bright spot 12
- universities 7
 - being held to standards of public institutions 246
 - feminization of 204
 - Turkey, effects of expansion of 205
- University of Washington program, projects to address women’s issues 193–4
- ‘untenured observer’ positions 238–9
- untenured women, may have chosen to be childless 72–3
- United States
 - may lose post-doctoral talent abroad 231–2
 - traditional male model eroding 233–4
- United States educational system 6–10
 - excels at graduate level 10
 - general education continues into university 8
 - no early career choice 6–7
 - specialization 8–10
- United States graduate education model 70–2
 - failure to incorporate the German model 70
 - invention of the department 70–1

Cambridge University Press

0521563801 - Athena Unbound: The Advancement of Women in Science and Technology - Henry Etzkowitz, Carol Kemelgor and Brian Uzzi

Index

[More information](#)

INDEX 281

- qualifying examinations 75–6
- study groups, women's exclusion from 74–5
- unofficial Ph.D. program 73–4
- see also* graduate education
- United States higher education system
 - beating the system, or being beaten by it 59–63
 - changing the weed-out system 65–7
 - gender socialization and undergraduate science education 53–9
 - undergraduate schools promoting women's interest in science 63–5
 - weed-out system 49–53
 - see also* higher education
- Venezuela, female scientists 203
- Vetter, Betty, on waste engendered by barriers 249
- vocational choices, in the undergraduate career 9
- 'Waldo' hypothesis 157n
- Watson, James
 - and Crick, Francis
 - publication of ill-supported hypotheses 126
 - social networking paid dividends 126–7
 - and the discovery of DNA 124–5
 - and Rosalind Franklin 20–1
- weak ties 124
 - and research success 176
- weed-out system 49–53
 - changing of 65–7
 - discourages personal contact and support 54
 - dominant in all science, maths and engineering majors 50
 - mechanism to find most able and interested students 50–1
 - as a post hoc selection system 52
 - removes too many women from science and engineering majors 26, 53–4
 - reverse systems 64–5
 - students' awareness of 52–3
- women
 - achieving positions of power 200
 - avoidance of science and engineering majors 47
 - cultural choice between attractiveness and smartness 58
 - empowerment efforts may lead to devaluation 228
 - increasingly aware of good and bad departments 182–3
 - lack mathematical background on entering college 43
 - lacking in scientific and engineering disciplines 1
 - lone scientist concept 159
 - lose interest in maths 43
 - loss of to science 10–12
 - negative consequences of academic culture 84–6
 - selected out in competitive science/engineering courses 53
 - significant faculty presence provides female role models 112–13
 - socialization of and tolerance of rude/abusive behavior 57
 - still marginalized by academia 20
- women faculty members
 - affected by impact on their students 148
 - dilemma for 149
 - empathy for students' difficulties 152
 - importance of interdepartmental ties 166–7
 - instrumental advisor/instrumental department 185–6
 - instrumental advisor/relational department 184–5
 - left to find their own way as advisors 151–2
 - older
 - confused/frustrated by women students' new demands 153
 - questioning previous beliefs 185–6
 - reconsidering previous practice 151
 - support/strategic assistance from competitive male advisors 153
 - relational advisor/instrumental department 184
 - resources also needed for professional survival 148–9
 - thriving, significant characteristics of 147
 - wonder how to warn without discouraging 150–1
- women graduate students
 - advanced, concerns for the future 98
 - baby-work bind 89–90
 - feel less able to take risks 41
 - and female advisors 148
 - may be deterred by difficulties of female professors 150
 - Mexico 207

282 INDEX

- women graduate students – *cont.*
 - often excluded from informal training process 73
 - problems of acting as advisor to 137
 - problems with both female and male advisors 100
 - results of survey on departmental life 94–5
 - solidarity among 90–1
 - undergraduate success related to mentoring 102
 - use female administrators as substitute advisors 198–9
- women in science
 - condition of, socio-economic systems have little effect on 219–20
 - differences between 147–55
 - instrumentals and relationals 147–8
 - a life-course analysis 2–3
 - movement towards change 220–1
 - overcoming resistance to 24–6
 - allies among younger male scientists 24
 - more aggressive approach by alumni of Radcliffe College 25
 - policy for 225–50
 - beyond policy interventions 247–50
 - a moral and legal imperative 226–9
 - science policy for 241–7
 - resistance to 15–16
 - in socialist countries 218–20
 - strategies already suggested for improvement of position 225–6
 - successful, positive experiences and supportive mentors 133
 - types of programs for 187–9
- women’s colleges, development of graduate departments 240
- women’s faculty experiences 131–6
- young women, sense of identity sensitive to extrinsic response 56–7
- Yugoslavia, former, advance of women but decline in science 219–20