

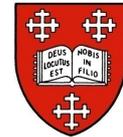
Women in STEM* in Scotland

Jocelyn Bell Burnell

Oxford University Astrophysics
&
Mansfield College



* Science, Technology, Engineering, Maths



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The good wife's guide - 1955



Housekeeping Monthly
13 May 1955

- Have dinner ready
- Put a ribbon in your hair
- Clear away the clutter
- Prepare the children

The good wife's guide - 1955



Housekeeping Monthly
13 May 1955

- Listen to him – his topics of conversation are more important than yours.
- Don't complain if he's late or stays out all night.

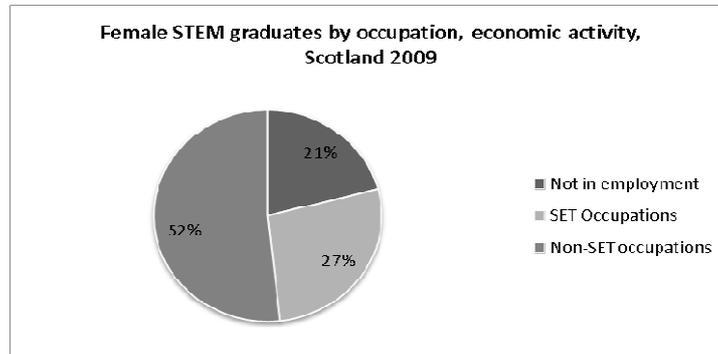
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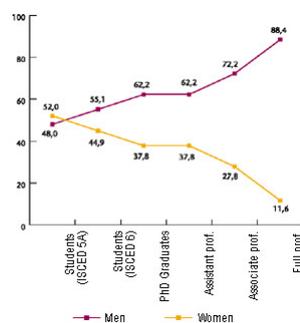
- Remember, he is the master of the house. You have no right to question him.
- A good wife always knows her place.

Most female STEM graduates leave STEM



52% male STEM graduates are in SET Occupations

“Scissors diagram”



- EU average, all sciences
- % of male, female at each level

WOMEN IN ASTRONOMY AROUND THE WORLD

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International Astronomical Union – countries with >100 members

Country	% delegation female	√N error	Country	% delegation female	√N error
Argentina	37	5	Belgium	15	4
Ukraine	27	3	Poland	13	3
Italy	25	3	Sweden	13	4
France	24	2	Canada	12	2
Brazil	23	3	USA	12	1
Spain	18	2	UK	12	2
Mexico	17	4	Netherlands	12	2
Russian Fed	17	2	S Korea	10	3
Greece	16	4	Germany	10	1
China	15	2	India	8	2
Australia	15	3	Japan	6	1

All member countries: 15% female

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Cautions

- Membership is for tenured astronomers (so larger numbers of younger women are not counted)
- You have to be nominated by your country's astronomical society – women may be more often overlooked
- Data from:
www.iau.org/administration/membership/individual/distribution/

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So.....

- Latin America and S. Europe have high % female
- N. Europe and the English-speaking countries have low % female
- Limiting factor is **culture**, not women's brains
- Similar distributions for physics, maths...

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Some observations

- Women are lost in larger proportions at every step of the academic ladder
- Even in areas where there have been large nos of women for 30 years, men dominate disproportionately at the top.
- Women face discrimination (often inadvertent) - they do not receive the opportunities and encouragement men do.
- Men and women hold implicit biases – they judge women more harshly.
- Evaluation criteria contain arbitrary and subjective components that disadvantage women.

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Unconscious bias

- Recruitment panel most comfortable recruiting somebody like themselves
- Institutional sexism/discrimination – systems and processes that are actually biased [M/F]
- Orchestras



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Sensing the ambiance

- Women are the 'canaries in the coal mine'
- More sensitive to the friendliness of a place
- Lack of (the success of) women may imply an issue that needs attention.



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Other Developments

- Athena SWAN Charter and Awards – a recognition scheme for Universities and SET Departments
- 25/8/11: Dame Sally Davies announces NIHR will only shortlist for funding Depts that hold silver Athena SWAN



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This study and report

This study was initiated by RSE Council, in conjunction with the Chief Scientific Adviser for Scotland.

We have focussed on the postgraduate employment of women in science, engineering, technology and mathematics, but excluded medicine.



Why Scotland?

Scotland is an identifiable unit

There is an opportunity to develop a coherent and comprehensive strategy for change with key stakeholders working together.

Would benefit Scottish women, Scottish business and industry, its economy and Scottish society in general.

Previous initiatives

There have already been many initiatives, usually by concerned volunteers, which have tended to be ad hoc, short-term

Not always evaluated, not always sustainable.



Previous Recommendations

Mentoring; networking; role models and visibility of women; gender 'balanced' interview and promotion panels; collecting and analysing gender-segregated data on seniority, pay; good management practices, openness and transparency; good parental leave arrangements; flexible working patterns; good (affordable) child care; discouraging a long-working hours culture.

NOT CONSISTENTLY IMPLEMENTED!

We are minded to call on.....

The Scottish Government: to commit itself to a national strategy, led by the appropriate Cabinet Secretary,

And to use its position as the purchaser of a wide range of goods and services to ensure that contractors and suppliers meet the public sector equality duty;



We are minded to call on...

- **The UK Government:** to introduce legislation that recognises the co-responsibility of mothers and fathers in parenting.
- **Business and Industry:** introduce quality part-time employment at all levels for men and women

We are minded to call on:

Research Councils and other funders to make the achievement of an Athena Swan silver award, or equivalent, a condition of a grant



And finally...

- **Learned and professional bodies'** governing body agree and publicise a statement welcoming and encouraging the full participation of women in that body and its academic discipline.
- The qualities expected of successful candidates should be made publically available, ensuring the language is gender neutral and does not use adjectives or verbs more usually associated with one gender only

The End

