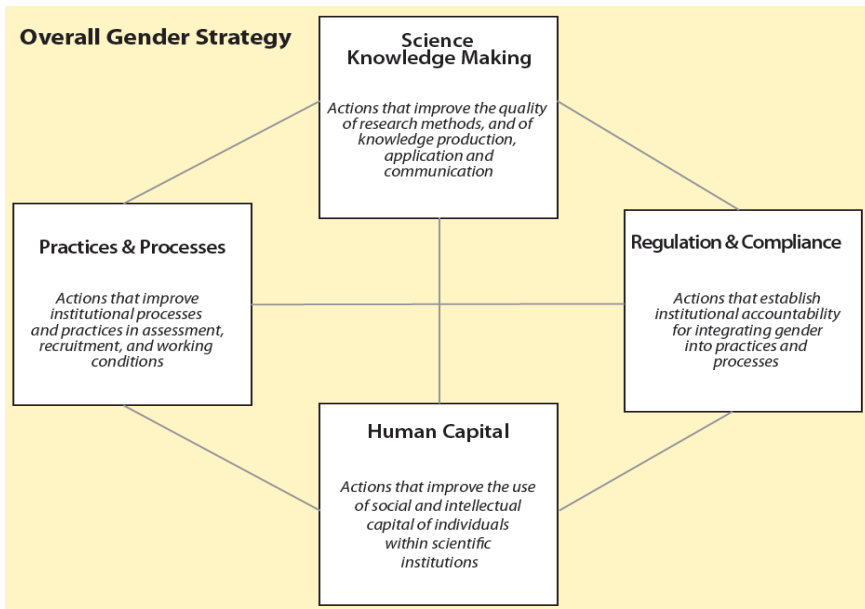




The Gender Summit: a global movement

Elizabeth Pollitzer, Portia

Evidence -> consensus->actions



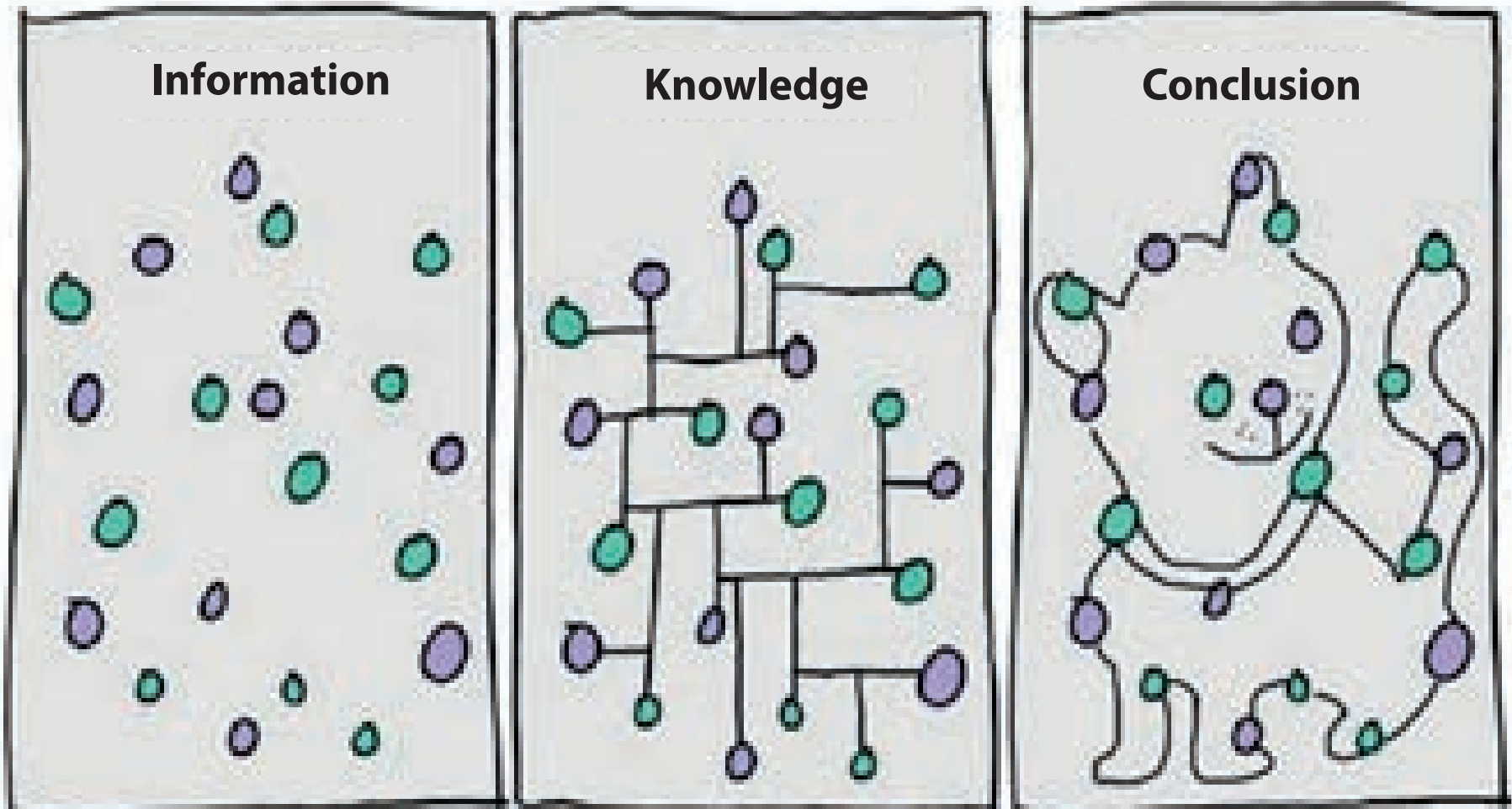
genSET

Recommendations for Action on the Gender Dimension in Science

S Science & Talent
C Collaborative participation
I Interdisciplinary research
E Excellence in research
E Equality for researchers
G Gender & research
E Equality & research
N Norms & standards
D Diversity & research
E Equality & research
R Research & research
E Equality & research
Q Quality & research
U University & research
A Academic & research
L Leadership & research
I Innovation & research
T Talent & research
Y Youth & research

June 2010

Scientific diversity and inclusion can mitigate the effects of gender and cognitive bias in science knowledge and practice



Gender Summit: scientists, policy makers & gender scholars meet to examine research evidence and reach consensus on the actions needed and who should take them



Showing less than best research and missed opportunities to gain benefits from science knowledge

4th Gender Summit – Europe, Brussels, 30 June – 1 July 2014

2nd A-Z guide why gender matters in research and innovation: Focus on Horizon 2020

Elizabeth Pollitzer, Portia, ep@portiaweb.org.uk

A is for **autoimmune diseases**, which affect women much more than men, but not always: in **rheumatoid arthritis** the female:male ratio is 2:1, but in Goodpasture's syndrome it is 1:3.¹ **A** is also for **agriculture**: in developing countries female-owned plots and female-headed households lack access to fertilizers, pesticides, and improved seed varieties.² **A** is also for **adverse drug reactions**, which occur twice as often in women than in men³, and in USA alone affect 4.3 million people, annually.⁴ **A** is also for **Aviation, Aeronautics and Air transport** and the need for more of women engineers in these sectors⁵, and for women leaders, like electronics and aircraft design expert Sue Gray who was promoted in 2013 as UK's **Air Vice-Marshal**, a role that carries responsibility for buying and maintaining all fighters, drones and other **aircrafts**.⁶ **A** is also for **ageing** of women and men and about prolonging **active independence** and productive working life: in Europe, in the 60+ **age group** there are 50% more women than men and in the 75+ age group there are 70% more women than men⁷. **A** is also for **agreement** in the scientific community on the need to identify **appropriate animal models** (*non-human primates, rats, mice, rabbits, swine, hamsters, garbils, quail, and fish*) that can be used to screen for sex-based differences, and be more predictive of the human experience⁸.

B is for **biomarkers** as indicators of (ab)normal **biological processes**, and of clinical efficacy⁹: concentration of biomarkers can differ between women and men, e.g. in metabolic processes¹⁰, and in Asperger's syndrome¹¹, so there is a need to consider sex when comparing their utility for diagnosis and risk stratification¹². Another use of biomarkers is to measure responses of non-human populations to different classes of pollutants, e.g. marine life in coastal regions, including impact on reproduction¹³. **B** is for **bio-banks** (*of DNA, cells, tissue, organs of every kind, blood, urine, saliva, etc.*), which in USA alone hold around half a billion **bio-specimens**¹⁴. Measures are required to ensure females and males are well represented in these collections, and to prevent their misuse, as was the case of the HeLa line cell that was obtained originally from Henrietta Lacks and used in many labs subsequently without awareness or acknowledgement¹⁵. **B** is for the role of user **behavior** (in which biological and socio-economic conditions interact) in the use of public and private transport, e.g. men tend to have much more linear origin to destination behaviours, centred on employment – these income-generating trips are valued more than women's domestic trips and so transport planning prioritises the needs of men¹⁶. **B** is also for **breast cancer screening** using technology developed for land mine detection, which is based on the fact that the dielectric constant in the breast cancer tissue is the same as in the materials used in land mines¹⁷.

C is for the role of **chromosomes** in non-hormonally produced sexual dimorphism, involving, for example, **gene silencing** of X-chromosome complement¹⁸. **C** is also for **combined risk pathways** where interactions between **genetic control** and behavioural, occupational, environmental, nutritional and other modifiable factors differentiate health effects of women and men¹⁹. **C** is also for gender differences in sensitivities to **chemotherapy**: in women the agent half-life is often longer and is associated with improved survival but also increased toxicity²⁰. **C** is also for **climate change** and need for gender responsive **climate action** concerning temperature-related morbidity and mortality: health effects of extreme weather events; air pollution; water- and food-borne contamination; vector-borne and zoonotic diseases; and exposure to ultraviolet rays, all of which can affect women and men in different ways²¹. **C** is also for **cognitive technologies** and gender stereotyping of social robots²², as well as for **cyber security** and for **cryptology** where greater participation of women is needed²³. **C** is also for **cognitive bias** in decision making of which at least 150 types have been identified so far, and this makes for a strong argument in support of science teams diversity. **C** is for **chicks**, 50 million of which are hatched each day in USA alone, and the poultry industry, which would like an automatic way of separating female eggs/chicks from males²⁴. **C** is also for **crash test dummies**, which are male, so even though women's and men's anatomy differs, e.g. women have less muscle around the neck and upper torso and so experience greater risk of whiplash injury, there are, as yet, no female-specific dummies²⁵. **C** is also for **vehicle crashes** where women are significantly more vulnerable and are 47% more likely to suffer serious injury than men²⁶.

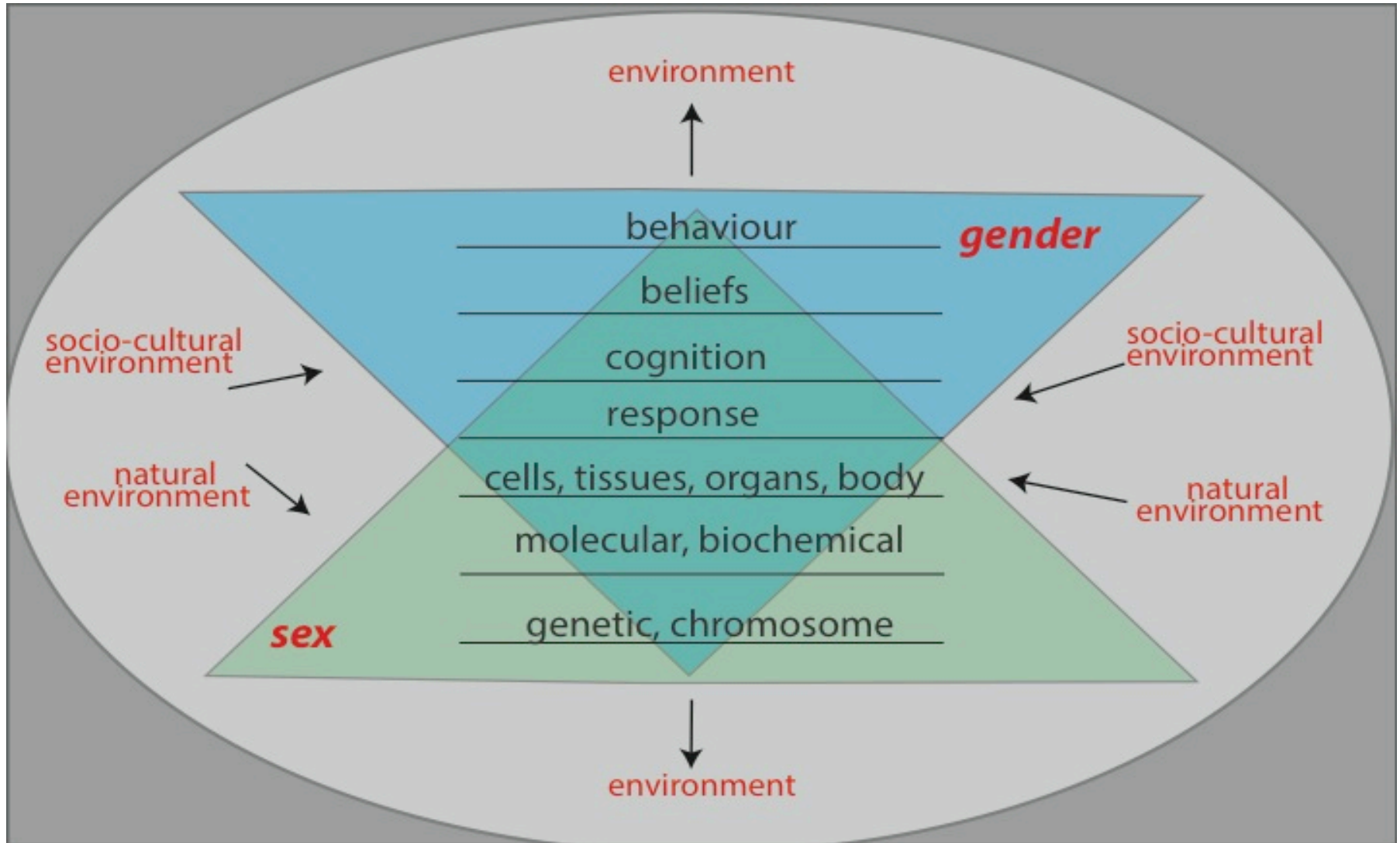
D is for (under-)diagnosis in women of illnesses that are commonly associated with men, such as cardiovascular and respiratory diseases²⁷, and autism²⁸ and the under-diagnosis in men of the illnesses that are commonly associated with women, such as breast cancer and osteoporosis²⁹. **D** is also for **diabetes**, the 3rd leading cause of death in women in USA³⁰, where paternal diabetes has been linked to lower birth weight suggesting that genetic factors may influence foetal growth and type 2 diabetes³¹. **D** is also for **disasters**, where post-traumatic stress **disorders** have been linked to maladaptive behaviours (alcohol or **drug abuse**, violence) occurring with greater severity among men.



from IDEAS
to MARKETS:
the Gender Factor

Introducing how
gender dimension
can transform and
enhance research
ideas and open up
new markets for
science knowledge

Showing the need to consider the role of biology, social conditioning, and environment



Showing effective actions

From the Chief Medical Officer
Professor Dame Sally C Davies



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20 July 2011

Professor Tony Weetman, Medical Schools Council
Sir Ron Kerr, Association of University Hospitals
Dr Steve Smith, Universities UK
Professor Michael Arthur, The Russell Group
cc: to: sally.davies and Mervyn Pitt

Dear Tony, Ron, Steve and Michael

We have just completed a very busy full week with an expert international panel interviewing short-listed academic/NHS partnerships across England for NIHR Biomedical Research Centres and Units (BRCs and BRUs). One of the things the panel and I were very concerned about going forward, is how both the academic and NHS partners are supporting women in clinical academia so that they can develop into and be appointed to senior leadership positions.

When questioned, the NHS Trust responses were generally OK. However, the Medical School responses varied from excellent to frankly appalling. I was embarrassed on behalf of our nation to hear some of the responses.

I now write to tell you therefore, that when we next run the competition for NIHR BRCs and BRUs we do not expect to short-list any NHS/University partnership where the academic partner (generally the Medical School/Faculty of Medicine) has not achieved at least the Silver Award of the Athena SWAN Charter for Women in Science. The present funding period of five years that we are about to enter gives both those who are funded, and those who are potential entrants next time four years to demonstrate this level of commitment to women in science.

When we announce the present successful awards we will ensure that our website highlights this as a condition for short-listing for the next funding round. We will also put it in our final award letter for this round of BRCs/BRUs but it would be very helpful if, through your networks, you could make everyone aware now so that they use this period of time to get the Athena SWAN Silver Award in place effectively.

With best wishes and thanks for your help

PROFESSOR DAME SALLY C DAVIES
CHIEF MEDICAL OFFICER & CHIEF SCIENTIFIC ADVISER

2013

Diversity Fueling Excellence in Research and Innovation: A Roadmap for Action for North America



Hosted by the U.S. National Science Foundation (NSF)

Partners included:

- The Natural Sciences and Engineering Research Council of Canada (NSERC - CRDSQ)
- Consejo Nacional de Ciencia y Tecnología, México (CONACYT)
- The U.S. National Institutes of Health (NIH)
- The Canadian Institutes of Health Research (CIHR), and
- Fortis Ltd in the UK, in Association with the European Commission



Gender balance and gender perspectives in research and innovation

Policy for the Research Council of Norway
2013–2017

Engendering Change in Scientific Publishing: A Common Standard for Sex and Gender Policies in Scientific Reporting and Editorial Management

1. Introduction
2. Importance of sex and gender awareness in science
3. The EASE Gender Policy Survey
4. Roles and Responsibilities
5. Toward a Common Standard
6. Conclusion



VS 2014-05-21 FOR EXPERT CONSULTATION

THE LANCET

"The Lancet encourages researchers...to plan to analyse data by sex, not only when known to be scientifically appropriate, but also as a matter of routine."

The DFG's Research-Oriented Standards on Gender Equality



The DFG's Research-Oriented Standards on Gender Equality

"Insufficient participation by women compromises efficiency and excellence in academia. The innovative potential of science and research can be fully leveraged only if outstanding talents, regardless of gender, work in large numbers in science and academia and do not drift off into other occupational areas even as they approach their peak performance. Men and women must be given equal opportunity to participate in all levels of scientific inquiry." (Recommendation by the German Rectors' Conference on promoting women, 14 Nov 2006)

A successful strategy for gender equality delivers significant added value. Gender equality enhances research quality because it enlarges the talent pool, promotes a diversity of research perspectives, and eliminates blind spots regarding the significance of gender in research contents and methods. Thus the inclusion of relevant gender and diversity aspects is a key ingredient of high-quality research.

To achieve and maintain gender equality, the DFG member institutions agree on structural and personal standards.

The responsibility to concretise and implement these Research-Oriented Standards on Gender Equality lies with each individual institution. To facilitate the implementation of the Standards, the DFG's Internet presentation on equal opportunity (www.dfg.de/chancengleichheit) will provide practical examples ("toolbox") beginning in mid-2009.

Using incentives and a differentiated reaction system, the DFG itself will ensure adherence to these standards (see last section: Implementation of Research-Oriented Standards on Gender Equality).

Better Peer Review



First UK funder to introduce Unconscious Bias Training.

- Positively received from all parts of the community.
- Interest from Canadian, European Funders, Universities, HEFCE as well as other Research Councils.

c.100 of our Peer Review College Members trained in:

- how subconscious processes can result in faulty and sometimes biased decisions
- understand techniques to help reduce the impact of bias on decision making
- using ideas to inform their approach in the Peer Review Process



IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

Irish Research Council
Gender Strategy & Action Plan

2013 – 2020

Ensuring excellence and maximising creativity and innovation in Irish Research

We have the evidence, we know what needs to be done, and we have a community of experts and practitioners to make action possible



“It is known that I believe in quotas. I don’t like the idea in theory, but in fact I like the result. I believe sometimes you have to kick the ball in order for it to go in the right direction”

(Lady Barbara Judge, the first Chair of the Institute of Directors, UK, March 22, 2015)



Global movement: the past, current and forthcoming Gender Summits

- Europe: 2011, 2012, 2014, 2015...2017
- North America: 2013, 2016, 2017
- Asia Pacific: 2015...
- Africa: 2015...
- Latin America:...