statistical society of australia incorporated

newsletter

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WORKSHOP FOR AUSTRALASIA'S YOUNG STATISTICIANS APPROACHES

WAYS 98 Canberra
12-14 August 1998

The main event of the year for the Young Statisticians Section, the workshop for Australasia's Young Statisticians (WAYS) is fast approaching.

This years WAYS will be the eighth annual workshop and will be held in Canberra from 12-14 August. WAYS provides young statisticians from the Australasian region with the opportunity to meet and discuss their work or research in an informal environment, and also acts as the annual meeting of the Young Statisticians section of the Statistical Society of Australia Inc. Attendees at last year's conference included a healthy contingent from Western Australia and New Zealand. Those of you familiar with the workshop will notice the name change (from "Australia's" to "Australasia's"). We hope that attendance of delegates from other countries in this region will continue this year. To encourage delegates from further afield, arrangements are being made with Qantas for reduced airfares for workshop attendees.

Brochure and registration forms are available from Anna Poskitt or Virginia Wheway, whose contact details are listed below. Come and visit the Youngstats website http://www.insureware.com/ys/ for more detailed information and an electronic version of the registration forms.

For more information, please contact:

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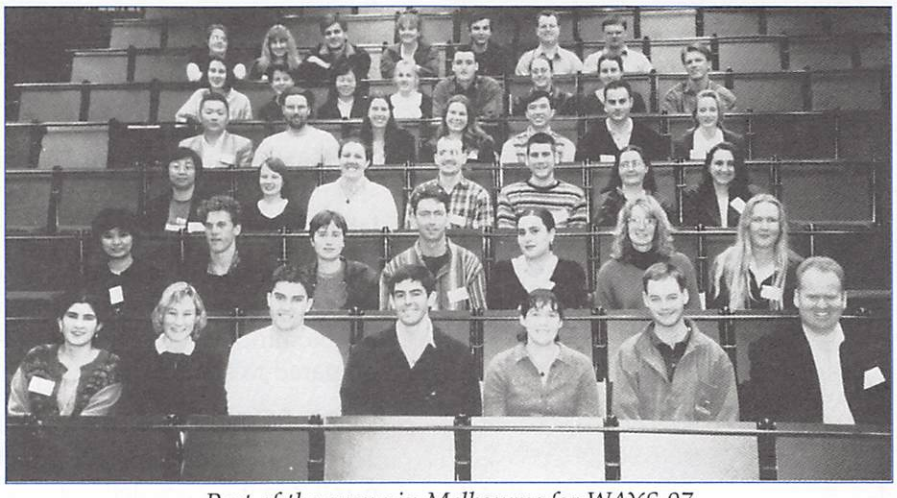

Part of the group in Melbourne for WAYS 97

Feedback Required

This is the first issue using our new layout. The Editors would appreciate any comments or suggestions regarding the new format.

In this issue

WAYS 98	1	C.L. Dodgson	12
Central Council News	2	Medical Statistics	13
Proposed Code of Conduct	5	Accreditation	13
Branch Reports	7	Australasian Conferences	14
Statistical Education	11	Overseas Conferences	15

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Advertising

Advertising will be carried in the Newsletter on any matters which the Editors feel are of interest to the members of the Society. For details of advertising rates, etc. contact the Editors at the above addresses.

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DEADLINE FOR NEXT ISSUE: 17 JULY, 1998

Central Council

NOTICE of the ANNUAL GENERAL MEETINGS of the STATISTICAL SOCIETY OF AUSTRALIA Inc. and the AUSTRALIAN STATISTICAL PUBLISHING ASSOCIATION Inc.

to be held on Tuesday, 7 July 1998 commencing at 1pm, in the Plenary Room of the Conrad Jupiters complex, Gold Coast, Queensland.

Agenda for the SSAI Annual General Meeting

1. **Apologies and Proxies**

   Proxies must be given in writing as per attached proforma. They must be given to the secretary no later than 24 hours before the time of the meeting.

2. **Confirmation of the Minutes**

   The minutes of the 1997 Annual General Meeting, held 15 July, 1997 in Sydney follow the agenda in this Newsletter.

3. **Presentation of the 1997 Annual Report**
4. **Presentation of the Treasurer's Report**
5. **Appointment of signatories to operate accounts**
6. **Election of Section Chairs**

   Nominations for Section Chairs should be with the Secretary no later than 30 June 1998.

   All nominations will require a seconder and a statement from the nominee that she or he is prepared to stand.

7. **Code of Conduct**

   The Draft Code of Conduct printed in this Newsletter will be put to the meeting for adoption as a mandatory Code of Conduct for Accreditated Statisticians and aspirational for all members of the Society.

8. **Rule Changes**

   A special resolution will be put to the meeting to change the Rules of the Society as per the details sent to each Branch Secretary.

   The purpose of the Special Resolution is to change the Rules to replace "Chartered Statistician" by "Certified Statistician". The abbreviation C.Stat will remain unchanged.

   Copies of the Special Resolution can be obtained from Branch Secretaries or from the Society Secretary on request.

9. **Any other Business**
10. **Date and place of the next meeting**

Agenda for the ASPAI Annual General Meeting

1. **Apologies and Proxies**

   Proxies must be given in writing as per attached proforma. They must be given to the secretary no later than 24 hours before the time of the meeting.

2. **Confirmation of the Minutes**

   The minutes of the 1997 Annual General Meeting, held 15 July, 1997 in Sydney follow the agenda in this Newsletter.

3. **Presentation of the 1997 Annual Report by the Editor of the *Australian and New Zealand Journal of Statistics***
4. **Presentation of the 1997 Annual Report by the Newsletter Editors**
5. **Presentation of the Financial Report**
6. **Appointment of signatories to operate the accounts.**
7. **Any other Business**
8. **Date and place of the next meeting**

Neville Weber
Hon Secretary

MINUTES of the ANNUAL GENERAL MEETING of the STATISTICAL SOCIETY OF AUSTRALIA Inc. (SSAI)

held on Tuesday, 15 July 1997 at 6 pm in Room 173, Carslaw Building, University of Sydney.

The meeting was chaired by the President, Professor Des Nicholls.

1. Attendance, Apologies and Proxies

As per Attendance Book.

2 Confirmation of the Minutes

The minutes of the 1996 Annual General Meeting, held on 10 July 1996 were confirmed (D. Shaw/M. O'Neill).

3. Presentation of the Annual Report

The Annual Report was presented by H. MacGillivray. She referred to the merger of *The Australian Journal of Statistics* with *The New Zealand Statistician* which will occur in 1998. The new journal will be called *The Australian and New Zealand Journal of Statistics* and will be published by Blackwell Publishers. The first volume of the new journal will be issued as Volume 40. The outgoing President also reported that the Accreditation Committee had been established and that they had held their first meeting. The Report was accepted (J. Rayner/ S. Sheather).

4. Presentation of the Treasurer's Report

The audited financial report was presented by E. Brinkley. The Society is in a healthy state financially. The report was accepted (R. Wolff/ D. Griffiths). A vote of thanks to the Auditor, D. Systrom, was moved from the Chair.

5. Appointment of signatories to operate accounts

The following were appointed as signatories to the Society's accounts:

E. Brinkley, J. Wood, G. van Halderen and A. Welsh. (Moved D. Shaw/ N. Weber.)

6. Election of Section Chairs

The Section Chairs were re-elected unopposed.

Statistics in the Biological Sciences:	K. Basford
Industrial Statistics:	T. Dickinson G. Robinson (joint chairs)
Statistics in the Medical Sciences:	J. Carlin
Statistical Computing:	G. Stone
Statistical Education:	P. Shaw
Survey and Management Statistics:	S. Linacre
Young Statisticians Section:	P. Dransfield

7. The Australian Journal of Statistics.

The President gave a brief outline of the minor Rule changes needed to allow The Australian Journal of Statistics to merge with The New Zealand Statistician to form The Australian and New Zealand Journal of Statistics in 1998. The Rule changes were put to the meeting (N. Fisher/ N. Weber) and accepted with no votes registered against.

8. Any Other Business: Nil.

9. Date and place of the next meeting

The 1998 Annual General Meeting will be held in conjunction with the 14th Australian Statistical Conference in Queensland in July 1998. The precise date and place will be publicised through the Newsletter and a formal notice will be sent to all Branch Secretaries.

The meeting closed at 6.10 p.m.

Neville Weber
Hon Secretary

MINUTES of the ANNUAL GENERAL MEETING of the AUSTRALIAN STATISTICAL PUBLISHING ASSOCIATION Inc. (ASPAI)

held on 15 July 1997 at 6.10 pm in Room 173, Carslaw Building, University of Sydney.

The meeting was chaired by the President, Professor Des Nicholls.

1. Attendance, Apologies and Proxies

As per attendance book.

2. Confirmation of the Minutes

The minutes of the 1996 Annual General Meeting held on 10 July, 1996 were confirmed (D. Griffiths/ E. Brinkley).

3. Presentation of the Annual Editor's Report

The Annual Report of the Editor of The Australian Journal of Statistics was presented by S. Sheather. He noted that after an increase in submissions to the journal in the previous year, submissions had decreased in the past year. He encouraged all members to make submissions to the journal. He noted that the quality of the journal depended on the quality of the submissions received. Plans for the new merged journal were briefly outlined. The new journal will be produced in four issues per volume rather than three. Web based discussion papers are planned for the journal. Selected papers will be made available on the web and discussion invited.

The paper will then be published in the journal along with selected discussion.

4. Newsletter Editors' Report

E. Brinkley presented the Newsletter editors' report. He echoed S. Sheather's call for more contributions from members. Although there has been continued improvement in the quality of the articles over the last year more photographs and chatty news are still needed. He referred to recent moves to a new consolidated

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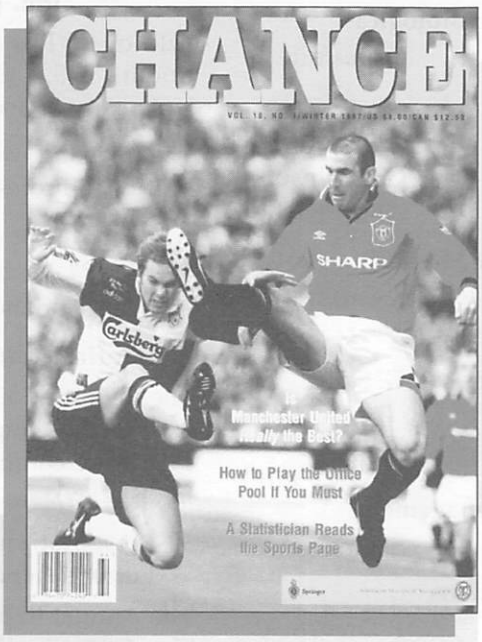

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With its current articles, reports, and columns on humour, book and software reviews, graphics and statistical policy, CHANCE stimulates your thoughts in provocative and innovative uses of statistics and keeps you abreast of new developments. The magazine guides you through the world of statistics using an informal style while retaining a technically correct statistical perspective.

A timely magazine
CHANCE serves as a news magazine for everyone interested in the analysis of data and issues of uncertainty. Besides offering a varied assortment of statistical articles, the journal provides an insider's view of the world of statistics in Washington, DC. Additionally, CHANCE Musings collects fascinating snippets from the press and popular fiction, plus news items of interest to the statistical community.

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database for the Society and mentioned the new membership listing that will soon be sent to members. He also reported that a new look was planned for the Newsletter in 1998.

5. Presentation of the Treasurer's Report

The audited financial statement was presented by E. Brinkley and was accepted (D. Griffiths/ D. Shaw). The Treasurer reported that the ASPAI accounts will have to be presented as two components in future, one relating to the journal and the other to non-journal activities.

6. Appointment of signatories to operate accounts

The following were appointed as signatories to the ASPAI accounts:

E. Brinkley, J. Wood, G. van Halderen, and A. Welsh. (Moved D. Shaw/ N. Weber.)

7. The Australian Journal of Statistics.

The President gave a brief outline of the minor Rule changes needed to allow the journal merger in 1998. The Rule changes were moved from the Chair and passed unanimously.

8. Any other business: Nil.

9. Date and place of the next meeting

The date and place of the 1998 Annual General Meeting will be the same as that for SSAI and will be publicised in the Newsletter.

The meeting closed at 6.17 p.m.

Neville Weber
Hon Secretary

Proposed SSAI Code of Conduct

I would like to thank all the members who commented on the proposed code of conduct as part of the first survey of members views conducted in June last year, or as part of the second survey conducted in April this year. Based on your significant contributions the proposed code has been substantially refined and improved. I would also like to thank Geoff Bruton, Ann Eyland and Neville Weber for their considerable efforts in revising the code based on comments and suggestions received.

As noted in the May 1997 Newsletter, the main reason for the SSAI adopting a code of conduct is to provide guidance to members on matters of ethics and professional conduct. The proposed code, together with the accreditation process, will also help to raise the awareness of the general public of statistics as a useful and coherent profession, and provide some assurance of the integrity of members providing professional services. These are clearly worthwhile objectives and are perhaps why 86% of members who responded to the June 1997 survey were in favour of the SSAI adopting a code of conduct.

Item 7 of the 1998 AGM Agenda (see page 2 of the Newsletter) notes that the proposed code will be put to a vote of members at the AGM. If endorsed the code will become an aspirational guideline for all members of the SSAI and mandatory for all accredited members (again, this was the strongly preferred position of respondents to the June 1997 survey). If you are at Conrad Jupiters on 7th July, why not attend the AGM and cast your vote!

Eden Brinkley

SSAI Code of Conduct

1. Introduction

The overall objective of the Statistical Society of Australia Incorporated (SSAI) and its branches is to further the study and application of statistical theory and methods in all branches of learning and enterprise.

In general, the public has no ready means of judging the quality of professional service except from the reputation of the provider. Membership of an association of professionals, such as the SSAI, will often be taken by the public as an assurance of ability and integrity. It is therefore essential that the highest standards are maintained by all members of the SSAI whenever they are acting professionally and whatever their level of qualification.

In common with professional bodies in other fields, the SSAI has formulated its own rules as a Code of Conduct to define the behaviour expected of SSAI members practising in everyday professional life. This code of conduct has been drawn up to reflect the standards of conduct and work expected of all practising statisticians. It is a guideline for all members of the SSAI and is mandatory for all accredited members.

2. Authority

The authority for the SSAI Code of Conduct derives from its formal adoption by the SSAI at the AGM of 7 July 1998. The SSAI binds itself to observe the principles of the code.

3. Rules of Professional Conduct

As an aid to understanding, these rules have been grouped into the principal duties which all members should endeavour to discharge in pursuing their professional lives.

3.1 The Public Interest

1 Members shall ensure that within their chosen fields they have appropriate knowledge and understanding of relevant legislation, regulations and standards and that they comply with such requirements.

2 Members shall in their professional statistical practice have regard to procedures designed to ensure the highest ethical standards. In particular, members shall ensure that the collection of information and the publication of results shall observe relevant privacy laws.

3 Members are encouraged to advance public knowledge and understanding of statistics and to counter false or misleading statements. Members shall not make any public statement in their professional capacity unless competent to do so and, where appropriate, authorised to do so.

3.2 Duty to Employers and Clients

4 Members shall carry out work with due care and diligence inaccordance with the requirements of the employer or client and shall, if their professional judgement is overruled, indicate the likely consequences.

5 Members shall not disclose or authorise to be disclosed, or use for personal gain or to benefit a third party, confidential information acquired in the course of professional practice, except with prior written permission of the employer or client, and the provider of such information where appropriate, or at the direction of a court of law.

6 Members shall declare any interests, financial or otherwise, which could be perceived as influencing the outcome of work undertaken for a client or employer.

7 Members should try to prevent the use of any misleading summary of data in their name. They should ensure that full disclosure is made of all assumptions and caveats.

3.3 Duty to the Profession

8 Members shall uphold the reputation of the Profession and shall seek to improve professional standards through participation in their development, use and enforcement, and shall avoid any action which will adversely affect the good standing of Statistics and Statisticians.

9 Members shall not speak in the name of the SSAI without the authorisation of the Executive Committee of the SSAI.

10 Members shall encourage and support fellow members in their professional development and, where possible, provide opportunities for the development of new entrants to the Profession.

11 Members shall act with integrity towards fellow statisticians and tomembers of other professions with whom they are concerned in a professional capacity, and shall avoid engaging in any activity which is incompatible with their professional status. Whilst members of the SSAI are free to engage in controversy, no member shall cast doubt on the professional competence of another without good cause.

3.4 Professional Competence and Integrity

12 Members shall seek to upgrade their professional knowledge and skill and shall maintain awareness of technological developments, procedures and standards which are relevant to their field, and shall encourage their colleagues to do likewise.

13 Members shall seek to conform to recognised good practice, including quality standards which are in their judgement relevant, and shall encourage their colleagues to do likewise.

14 Members shall only offer to do work or provide service which is within their professional competence and shall not lay claim to any level of competence which they do not possess.

15 Members shall accept professional responsibility for work in their name, and any professional assessment which they are asked to give shall be objective and reliable.

16 Members should set out in writing any conflict, potential or actual, with the interests of the client or employer.

3.5 Disciplinary Procedures

17 A member is expected to act at all times in a manner likely to be judged by informed, respected, and experienced peers in possession of all the facts as the most ethical way to act in the circumstances. This code sets out certain basic principles that are intended to help members maintain the highest standards of professional conduct. Should a case arise where a member is believed to have wilfully acted in a manner which violates these principles then the disciplinary and appeal procedures set out in Rules 36 & 37 of the SSAI shall apply.

Newsletter Photos

The Editors would like to thank those contibutors who sent in photographs for this edition of the Newsletter – please keep them rolling in.

NEW SOUTH WALES

Marketing Statisticians

The inaugural address from the incoming President of the NSW Branch of the Society was delivered by Jennifer Kelly at the first meeting of the year on March 17th. Jenny's address (the H O Lancaster lecture for 1998) was titled "Marketing Statisticians", being sufficiently ambiguous to tantalise the audience of 37, which pondered as to exactly what Jenny meant. It was quickly apparent that "marketing" was a participle rather than an adjective, as Jenny set out a gloomy picture of a decade long decline in research funding to universities and other research institutes which was limiting the traditional job opportunities for statisticians. She noted that the regard in which the profession of statistician was held had undoubtedly declined since the 1970s, particularly relative to other similar professions, such as accountancy. This requires us as statisticians to re-think the position of our "product" in the marketplace, and develop strategies for overcoming untrue perceptions and reinforcing the benefits of statistical knowledge.

Over the course of the lecture we identified our product's market (primarily universities, government, research organisations and large private corporations), our product's strengths and weaknesses (both real and perceived), and threats and opportunities which face the profession of statistics.

Jenny considered the strengths of a statistician to be numerical and analytical skill, the ability to find valuable patterns in masses of data, and ability to design and evaluate statistical experiments and a greater breadth and depth of knowledge of statistical principles. Possibly the primary (perceived and real) weakness of our profession is the idea of statisticians as boffins who cannot communicate and are more interested in numbers than the bigger picture. Moreover there is the problem that statistics is (almost) no-one's core business. Users of statisticians often must face the choice of sacrificing some subject matter expertise for a deeper statistical knowledge, and are often not willing to make that sacrifice.

It was interesting to find that in addressing the threats and opportunities facing our profession, and in the vigorous and lively debate which followed, it was a moot point as to whether some issues facing statisticians were threats or opportunities. This was most clearly apparent in the issue of the increasing number of para-statisticians which are beginning to constitute our competitors/colleagues; supported by the increasing ease of use of "cook-book" statistics. On the one hand, it was argued that this development was a threat as statistical software packages allied with cook-book statistics abound, but on the other hand the increasing complexity of statistical software applications along with the increasing need to analyse patterns in data could be considered opportunities, particularly (but by no means confined to) areas of statistical education and training of non-statisticians, and in providing support to non-statisticians in (for example) the design and maintenance of specific purpose sub-routines.

Important additional opportunities for statisticians are the ever-growing information and Quality Assurance industries, and the increasing need for analytical (numeric) skills in most areas of commerce and manufacturing.

Jenny concluded with some ideas as to what we as a society and as individuals can do to promote statistics as a profession. The society has a role to play in influencing the direction of statistical education from high schools to universities, and in continuing to develop general community understanding of the importance of correctly applying statistical principles to data analysis. The society's recent moves towards accreditation contribute to this. The society is also an invaluable resource for its members to sharpen their skills and broaden their statistical knowledge, especially for members who may be isolated statisticians in the workplace.

As individuals we can do more to be aware of the real and perceived weaknesses of the profession, we can ensure that we promote the value of our work by avoiding underplaying its importance and underpricing our product as can sometimes occur (we may be especially susceptible here when our work must be remunerated from a diminishing research budget), we can support the society in achieving its objectives through membership and active participation.

That the outgoing president was forced to cut short the subsequent debate and order the audience to have dinner at a nearby restaurant was evidence of the enthusiasm generated by Jenny's address.

Stuart Veitch

Searching for regularities in choice processes or The Little Constant That Could

On 22 April 1998 27 courageous folk braved the bad weather to hear Jordan Louviere, Foundation Chair and Professor of Marketing at the University of Sydney, speak on some interesting developments in choice processes.

As many analysts have found, taking data from a model and using it to predict what will happen in "the real world" is often inaccurate. Many economists and social researchers have discovered through bitter experience that human behaviour is not easily predicted. Professor Louviere was excited to share with the audience that, with the help of a phenomenon first documented by a PhD student from MIT in 1989, this may no longer be the case. The

THE AUSTRALIAN
NATIONAL UNIVERSITY

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(Level E1/Level D)

Applications are invited from suitably qualified men and women for appointment to a senior position in biostatistics at the National Centre for Epidemiology and Population Health (NCEPH). NCEPH is a multi-disciplinary research centre of The Australian National University, established in 1987 as part of the Commonwealth government's program to strengthen and upgrade public health teaching and research in Australia and draws its staff from the disciplines of epidemiology, biostatistics, sociology/anthropology, health economics and population and policy studies.

The successful applicant should have a PhD, a strong track record in biostatistical research and in applied research jointly with faculty specialising in other disciplines, such as epidemiology, community health and environmental studies. The appointee will be expected to maintain a program of studies in Biostatistics by attracting postgraduate students; to advance fundamental methodology in Biostatistics; to apply advance techniques to biostatistical problems arising in other research programs and to advise and guide faculty and students of these programs in their application of biostatistical method.

Appointment: This is an extended-term appointment for a period of up to 25 years with the actual term of appointment to be negotiated with the successful applicant. The initial appointment will be for five years; confirmation, to the negotiated expiry date,will be subject to a review at the end of the fourth year.

Enquiries: Professor R.M. Douglas, Director, NCEPH, telephone: (02) 6249 4578, facsimile: (02) 6249 0740.

Contact: Further particulars, which include the selection criteria, must be obtained before applying from the Assistant Executive Officer, NCEPH, telephone: (02) 6249 5541, facsimile: (02) 6249 0740, email: alison.humphreys@anu.edu.au.

Salary range: Professor (Level E1) $88,386 pa.
Senior Fellow (Level D) $69,047 - $75,872 pa.

Closing date: 19 June 1998.

Ref.: NCEPH 4.2.1.

Information on how to apply may be obtained from the ANU Web Page – www.anu.edu.au/jobs or by telephoning/emailing the contact.

Debbie Street and Jordan Louviere.

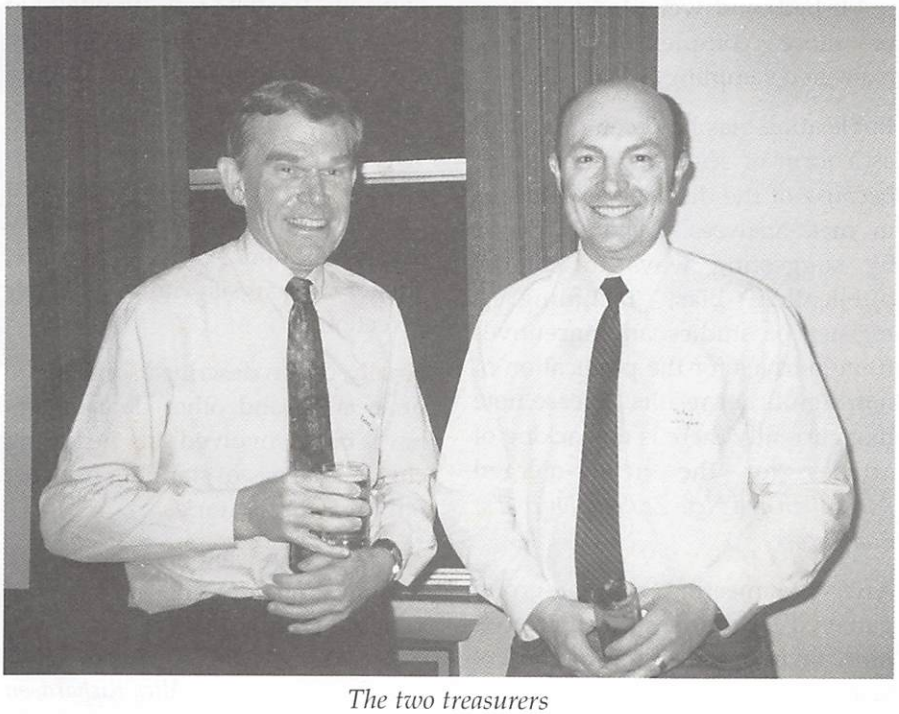
phenomenon is a simple modification of a commonly used technique, random utility theory.

In short, a constant factor is applied to the model obtained (usually a multinomial logistic regression model). This "little constant that could" depends on the amount of variation in the model's random noise. Numerous examples of the successful application of this technique to a variety of fields were given. For example in marketing, the same choice model may be used for different products. Professor Louviere indicated that there is scope for more research into this phenomenon, although not many of his peers had taken an interest in it.

Following the talk those attending dinner were pleased to find that it was in the same venue as the lecture – the Sydney University Staff Club. An enjoyable evening was had by all.

Corrections to the previous NSW Branch Report

The new treasurer of the NSW Branch is Rodger Robertson, not Robert Mellor. Rodger is pictured below with the previous treasurer, Peter Wright. The NSW Branch is indebted to them both!



The two treasurers

The convener of the "Young Statisticians in NSW" special interest group is actually Ky Mathews (ph: 02 9895 7473; e-mail: kmathews@dlwc.nsw.gov.au) - please contact Ky for information on YS activities in NSW.

Abie Ekangaki's current e-mail address is: abiee@unsw.edu.au – please contact Abie with ideas or suggestions for the planned statistical software workshop.

Susan Hoffmann

QUEENSLAND

{Editorial Comment: The following article was inadvertently omitted from the March newsletter.}

Quantifying Expert Opinion

Dr Paul Garthwaite (University of Aberdeen, UK), who is visiting Queensland University of Technology until June 1998, addressed the November meeting of the Queensland Branch on "Quantifying expert opinion as a probability distribution"'. Paul began by considering elicitation of prior distributions (in the Bayesian paradigm), namely how a personal opinion translates into a prior. He cited psychological research as an important application of this, which raised various statistical challenges. As the sky outside darkened, Paul launched into an examination of credible intervals, via the example of "How many foreign cars were imported into the USA in 1968?"', to be answered by making high (and, respectively, low) estimates such that you feel there is only a 1% probability the true answer would exceed (fall below) your estimate. When this was tried out on experts, there was a 43% failure rate, which reduced to 23% after training. This was attributed to the quartiles of a distribution being too close together

to contain the true value sufficiently often when the method of bisection was used.

Underlying this phenomenon is the method of anchoring adjustment: just as one may use the 'anchor' of knowing the distance between Brisbane and Sydney to estimate the distance between Brisbane and Canberra, so too may one use the median as an anchor and adjust using information about quartiles to produce an interval (with the problem that the inter-quartile range is too narrow). At the mention of the southern capitals, thunder began to rumble. This led to the problem of conservatism in revising an initial opinion in the light of data. Paul indicated how one might treat the bookbag-and-poker-chips problem, in which one bag contained 70% red chips and the rest blue, while the second bag contained 30% red and the rest blue. With a uniform prior on the bags, how does one construct a posterior probability for one bag, based on a sample of 12 chips of which eight were red? Paul extended the discussion here to choices of prior distributions for Bernoulli processes. Then it began to rain. He went on to present some of his recent work in the setting of linear regression, designed experiments and mixture modelling, and the various elicitation problems they entailed.

Issues over minimum variance were also discussed. As Paul concluded, the Heavens sent down a typical Brisbane sub-tropical downpour, and we all arrived at dinner shortly afterwards somewhat wetter, but much better informed thanks to Paul's presentation.

Rodney Wolf

CANBERRA

Publication Bias

A large crowd came in February to hear Associate Professor Deborah Street of Sydney's University of Technology speak on publication bias.

Deborah gave several definitions of publication bias, including the main idea that studies with significant results are more likely to be published. She showed that both authors and referees contribute to this bias, the former through their decisions on which research to undertake, and the latter through their reaction to articles with positive, negative or mixed results.

Deborah also showed how funnel plots (a scatter plot of sample size against effect size for a number of studies) can be used to detect publication bias. Bias is present if the funnel plot appears to have a bite taken out of it. She then discussed three schemes for producing bias in selecting articles for publication – ranked sampling (the study with the largest effect is published), truncated sampling (all studies with significant effects are published) and weighted sampling (a more complex version of truncated sampling).

Publication bias has been described as a form of scientific misconduct, because of the distortion it induces in meta-analyses. Deborah closed by suggesting ways to combat publication bias, including a register of studies and incentives from journals for the publication of non-significant results. (Please note that currently there is no backlog of articles for the newly-merged *Australian and New Zealand Journal of Statistics!)*

After the meeting a large group gathered for dinner at the Society's most favoured restaurant of recent years.

Data Mining: A Statistician's Guide

The 1998 AGM, held in March, was well attended and after the meeting, Dr Glenn Stone of CSIRO Mathematical and Information Sciences spoke about data mining.

After offering a range of definitions of data mining, Glenn listed some of the key issues in data mining, namely the massive size of the datasets, their highly multivariate nature, complex structure and low signal to noise ratio.

Glenn then introduced the classic problems that data mining addresses.

Firstly, the study of the purchasing habits of customers. What items in a supermarket are generally bought together? A favourite example here concerns a US supermarket chain, which has discovered through data mining that men who buy nappies on a Friday night also generally buy beer.

Secondly, the study of groups within the customer base of an organisation. For example, which bank customers are most likely to "churn" ie close a bank account within the next few months? Neural networks are a favourite technique here, and the data sets are often too large to admit a solution using current generalised linear model fitting algorithms.

Thirdly, fraud detection. Glenn admitted that this is a very hard problem, and answers currently revolve around expert knowledge, cluster analysis and outlier detection.

Finally, Glenn described some of the projects he and other data miners have been involved in, including cluster analysis of star data from Mt Stromlo Observatories.

A large group went on after the talk to dine at one of Canberra's newest eating establishments.

Alice Richardson

Statistical Education e-mail list

As many of you are aware there is an e-mail list which was specifically set up for fostering discussion on, and disseminating knowledge about, statistical education.

If you thought that you were a subscriber to the list but have not heard from us for sometime, it may be that your e-mail address has changed and that messages are not gettting through. If that is the case please re-subscribe, or if you are not already a subscriber subscribe for the first time, by sending the one line message
subscribe StatEd_List
to
maiser@efs.mq.edu.au
We do hope that more people will participate. Helen MacGillivray is organising a session on statistical education at 14th Biennial Conference, 6-10 July and many people interested in statistical education will be attending ICOTS in Singapore so there should be much to discuss.

Pamela Shaw

e-mail:Pamela.Shaw@mq.edu.au

Australian Bureau of Statistics

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The ABS is looking for good quality graduates to fill Research Officer, Cadet Information Technology and Graduate Administrative Assistant positions in its Offices throughout Australia. These graduates will be offered a diverse and challenging career as part of the Bureau's future senior leadership team.

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The ABS is an Equal Employment Opportunity Employer and welcomes applications from EEO target group members

C.L. Dodgson (Lewis Carroll), 1832-1898

Recent years have seen the commemoration of historical anniversaries of eminent probabilists and statisticians such as I.J. BienaymJ (1796 – 1878), P.L. Chebyshev (1821 – 1894), and L.A.J. Quetelet (1796 – 1874). This year is the 100th anniversary of the death of Charles Lutwidge Dodgson (he pronounced it Dodson), logician and mathematician, still well remembered as Lewis Carroll, the author of the *Alice* books, and a continuing object of intense biographical scrutiny. That Dodgson played an interesting niche role in probability through his interest in inverse probabilities and drawing counters from bags (that is, urn problems), characteristically English of its time, has been indicated in Seneta (1993). This and a seminar to the NSW Branch (*Newsletter*, 31 May 1993 No. 63) led to Eric Sowey's formulation of a question on an Australian connection to Lewis Carroll's *Pillow Problems* in the traditional quiz at the 1997 Annual Dinner of the Branch, so the present note on this anniversary may interest some members of the Society.

There were in fact more substantial Australian connections. Two cousins of Dodgson, Frank and Percy, emigrated to Australia, which Charles thought was a "mad idea". Percy died childless and of him little is known. There are still descendants of Frank in Australia, and there are two known letters from Charles to Frank, not really of great interest.

There were at least two items of Australiana in Dodgson's library: T.K. Hervey's (1825) *Australia, with other poems* (2nd edn.) published by Hurst Robinson, London; and Ethel Turner's *Seven Little Australians*.

This last was first published by Ward Lock in London in 1894, so it must have been this edition that Dodgson purchased, a few years before his death. It was still being published by Ward Lock in 1962; and there have been more recent Australian editions (the Fisher Library at Sydney University has editions spanning 1912 – 1988). The book of the then 22 years old Ethel Sybil Turner (1872 – 1958) has in a smaller way become a children's classic in this country. It was at about the same age as Turner that Dodgson began his literary career, by offerings to the *Comic Times*. Apart from the Australian family connection, the two books clearly accord with two of the areas for which Lewis Carroll is well known: poetry (of a kind); and literature for children.

The very recent book of Cohen (1995) is one of the definitive biographical studies, but perhaps the material in the chapter entitled *The Man's Faith* would be presented differently by an author intimately connected with the theological and political minutiae of Tractarianism and the Oxford Movement. An excellent little book in Russian of Nina Demourova of 1979, little known to the western reader, is not as dismissive of Shane Leslie's article "Lewis Carroll and the Oxford Movement". In a theological context, it may interest some readers that elements of Lewis Carroll's logical arguments figure in a monumental religious study published in Moscow in 1914 whose title in English translation is *The Pillar and Foundation of Truth*, of which there is a French-language version: P.A. Florenskii: *Le Colonne et le fondement de la vérité*. (Lausanne, 1975). Its author was the mathematician, philosopher and Russian Orthodox priest, Pavel Aleksandrovich Florensky (1882-1937), contemporary and friend (Ford, 1991) of the leading figure of the Moscow Mathematical School, Nikolai Nikolaievich Luzin (1883-1950). Florensky was executed sixty years ago on the orders of the Leningrad NKVD (later called the KGB). Since the demise of the Soviet Union in the 1990's, he has been endowed with the mantle of leading Russian philosophical thinker.

Florensky used mathematical concepts to explain theological ones, and his book is full of mathematical arguments and symbolism. Section XVI (p.500 of the 1990 Russian reedition) is entitled "The Problem of Lewis Carroll and a Question of Dogma" and seeks to reconcile, using symbolic logic, the rationalist view that inconsistencies between Scripture and dogmata testify to their non-divine origins, and the mystical view that the inconsistencies prove divinity. Florensky here refers second-hand to an article of Lewis Carroll as cited by the French logician L. Couturat. The article of Lewis Carroll is stated to have been published in *Mind*, April and July, 1905, pp.298, 400 resp. (In the last years of his life Lewis Carroll wrote increasingly for logicians.) The logical premises are: q implies r, p implies that q implies (not r). Florensky shows that the conclusion is: p implies (not q). Thus if q refers to "sky", r to "blue", p to "sunset", the conclusion is that sunset implies something other than "sky" (such as the setting sun's rays). He asserts that Lewis Carroll's "sensible" arguments in reaching a conclusion are not valid, and result from the same fallacy of reasoning as of the rationalists. I am grateful to Nina Demourova for mentioning in conversation the Carroll-Florensky connection.

As statisticians, we naturally wonder whether Florensky had anything to say that relates, rather, to our own field. In fact he speaks (as might be expected) of Pascal's "The Wager" ("Le Pari") which he terms (p.640) "the wager on God" and takes Laplace to task for misunderstanding the idea of eternity in this context. "The Wager" has been, more recently, understood as a decision-theoretic moralistic argument rather than a proof of the existence of God. Karl Pearson also rates a mention (p.641) for his *Grammar of Science*.

To conclude in a probabilistic vein: after the publication of Seneta (1993) I received a number of letters of which I would like to mention

one from Professor R.A. Wijsman (University of Illinois at Urbana-Champaign) which concerns Problem No.50 from *Pillow Problems* to which I said Dodgson had given a correct answer, but I did not discuss the method. He concluded, as is correct, that I did not look at Dodgson's method in detail, since he found Dodgson's derivation (pp.72-73) seriously flawed. This particular problem is structurally rich, leading to a Markov chain formulation in the "tradition" of the more usual later mixing models (Ehrenfest, Bernoulli-Laplace). It is interesting even if one stays in the elementary framework. Some readers may enjoy it themselves, and offer it to their students, so I restate it here.

No. 50

> There are 2 bags, *H* and *K*, each containing 2 counters: and it is known that each counter is either black or white. A white counter is added to bag *H*, the bag is shaken up, and one counter is transferred (without looking at it) to bag *K*, where the process is repeated, a counter being transferred to bag *H*. What is now the chance of drawing a white counter from bag *H*?

To calculate by the theorem of total probability, the probability distribution *(1/108) (3, 30, 51, 24)* of the number of whites *(0, 1, 2, 3)* in bag *H* after the second transfer, one approach needs the joint distribution of the number of whites *W(1,H)* and *W(1,K)* in bag *H* and bag *K* respectively before this transfer. It is not valid to multiply the probabilities of the marginal distributions to get this, since *W(1,H)* and *W(1,K)* are not independent; but Lewis Carroll does and his distribution of the number of whites in bag *H* after the second transfer is *(1/108) (4, 29, 50, 25)*. His final answer to the problem, *17/27*, is correct since both the correct and incorrect final distributions have the same expectation. To calculate the joint distribution of *W(1,H), \ W(1,K)* one can use the joint distribution of the numbers *W(0,H), \ W(0,K)* before the first transfer, and these can be taken as independent, as Lewis Carroll does.

He would not have had the notion of statistical dependence which is needed in the preceding. It is possible to do the problem without the idea of joint distribution. The final correct answer is another of those paradoxes which pepper Lewis Carroll's probabilistic work.

REFERENCE

Carroll, Lewis (1958) *Pillow Problems and a Tangled Tale*. Dover, New York [Reprintings from 1895 and 1885].

Cohen, M.N. (1995) *Lewis Carroll: A Biography*. Macmillan, London.

Ford, C.E. (1991) Dmitrii Egorov: Mathematics and Religion in Moscow. *The Mathematical Intelligencer*, 13, 24-30.

Seneta, E. (1993) Lewis Carroll's ``Pillow Problems'': On the 1993 Centenary. *Statistical Science*, 8, 180-186.

Eugene Seneta

Accreditation

Accredited Members

The following applications have been approved by the Central Council.

GStat:	Joel Bloch
CStat:	Kaye Basford
	Ken Brewer
	Seong Woh Choo
	Des Nicholls
	Doug Shaw
	Jane Smith
	Peter Thomson
	Alan Welsh

Neville Weber
Secretary, SSA

Medical Statistics

Epidemiology workshop at ASC14

This is a final reminder for people to register, *and to offer contributed papers*, for the workshop that we are organising with Norman Breslow on the first 2 days of the conference, July 6-7. The flyer for the workshop did not specify a deadline for contributed papers and I intend to be very flexible about this -- for planning purposes I suggest 29 May. You need only send a title and a brief summary of what you plan to present, and this could range all the way from polished work to a half-baked idea about a new study or a difficult analysis.

There has been considerable interest in the workshop. If you have mislaid your flyer, the details can be found at http://www.rch.unimelb.edu.au/CEBU/breslow.html.

Registrations should be made using the main conference website, or the ASC14 registration brochure.

If registering for the whole 5-day conference, no additional payment is required for the workshop, although we are trying to gather an accurate idea of likely numbers; registration for the two days only costs $220. The Australasian Epidemiological Association is offering sponsorship to the value of a few hundred dollars for up to 3 members who participate. This offer has generated very little interest so far, so I encourage all AEA members to come forward as soon as possible!

John Carlin

j.carlin@medicine.unimelb.edu.au

Australasian Conferences

Conference Summary

The International Environmentrics Society Conference (TIES98), 3-6 July 1998, Jupiter's Casino, Gold Coast.
Information: Alice O'Neil, CSIRO Mathematical and Information Sciences, PO Box 120, Cleveland QLD 4163; tel. (07) 3826 7212; fax (07) 3826 7304. (Further details in Newsletter 81.)

14th Australian Statistical Congress, 6-10 July 1998, Jupiter's Casino, Gold Coast.
Information: ASC14, School of Mathematical Sciences, Queensland University of Technology, GPO Box 2434, Brisbane QLD 4001; email asc14@qut.edu.au; fax (07) 38642310. (Further details in Newsletter 78, 81 & this issue)

WAYS98, 12-14 August 1998, Canberra.
Information: Anna Poskitt, organiser WAYS98, W42c, Australian Bureau of Statistics, PO Box 10, Belconnen ACT 2616, email: anna.poskitt@abs.gov.au tel: (02) 6252 7954 or Virginia Wheway, Youngstats section chair, Shalom College UNSW, Sydney 2052, email: virg@cse.unsw.edu.au, tel: (02) 9385 3988 or 9931 9691

Australasian Genstat Conference: Applications, Advancements and Enhancements, 3-5 February 1999, Erglowe House, Lorne, Victoria.
Information: http://www.nre.vic.gov.au/science/genstat99, email genstat99@goldy.agvic.gov.au, John Reynolds, Convenor, Local Organising Committee, fax (03) 9742 0201

There is a list of Australasian statistics conferences for 1997 and 1998 at:

http://www.maths.uq.oz.au/~gks/webguide/conf.html

Preliminary Announcement
GENSTAT '98
Lorne, Victoria
3 – 5 February 1999

Science in society – point and counterpoint

The Australasian Genstat Conference will be held in Lorne, Victoria, from. 3 – 5 February 1999.

Lorne is a scenic drive of about 2 hours from Melbourne heading south west along the Great Ocean Road. It is a relaxed beach resort and fishing village with a variety of cafes and restaurants, two pubs, art and craft galleries, and a picture theatre. Lorne is often used as a base for visitors who wish to explore the Otway Rainforests, the Shipwreck Coast and the Twelve Apostles.

Transport from Melbourne to Lorne (leaving Melbourne on the afternoon of Tuesday 2 February) will be arranged for conference delegates. Return transport will also be arranged for the afternoon of Friday 5 February.

The venue for the conference is Erskine House , a "Country House Hotel" on the beach at Lorne. Erskine House, one of the first conference centres in Victoria, was constructed in 1868 and has had a series of additions and alterations, most notably in the 1930s.

The rambling buildings are nestled in 6 hectares of gardens which include five lawn tennis courts, two all-weather tennis courts, 18-hole putting green, four lawn bowls greens, and four manicured croquet lawns. From the private gardens there is direct access to the beach – great for an invigorating early morning walk or a body-surf before lunch.

The Conference

Australasian Genstat conferences attract an interesting mix of enthusiastic statistical practitioners drawn largely from the biological, agricultural, environmental and food sciences. Informality is the keynote. The conferences not only bring the developers of Genstat into direct contact with users, they also represent real opportunities for applied statisticians with varied backgrounds to share experiences and to explore applications and advances in statistics utilising Genstat. The conference is being hosted by the Biometrics Group of AgricultureVictoria, a business of the Department of Natural Resources and Environment (DNRE).

Program and Workshops

The organisers intend to facilitate one or more Genstat-related workshops or short courses in Melbourne before the conference (1-2 February) and welcome comments and suggestions concerning topics for the short courses and the conference program.

Information about the conference and venue is available on the web site:

http://www.nre.vic.gov.au/science/genstat99

Suggestions and requests for further preliminary information should be sent to:

email:genstat99@goldy.agvic.gov.au

Convenor, Local Organising Committee: John Reynolds, fax: (03) 9742 0201.

Fifth International Applied Statistics in Industry and Manufacturing Summer Conference, 1-3 June 1998, San Diego, California, USA.
Information: Bradley Brown, 5IASIM Conference Chairman, email bjbrown@eagle.cc.ukans.edu; fax +1 (913) 841-2133; mail Brad Brown, ISAI, PO Box 189, Mulvane, KS 67110, USA.

Fifth International Conference on Teaching Statistics (ICOTS-5), 21-26 June 1998, Singapore.
Information: ICOTS98 Secretariat, email ctmapl@singnet.com.sg; fax 65-299-8983; web site http://www.nie.ac.sg:8000/~wwwmath/icots.html.

Overseas Conferences

Seventh International Congress of Ecology, Frontiers of Statistical Ecology with Environmental Statistics, 19-25 July 1998, Florence, Italy.

Information: Prof. Wolfgang Urfer, Department of Statistics, University of Dortmund, D-44221 Dortmund, Germany, tel. +49 231 755-3121, fax +49 231 755-5303, email urfer@omega.-statistik.uni-dortmund.de or Dr Phil M. Dixon, Savannah River Ecology Lab, University of Georgia Drawer E, Aiken SC 29802, USA, tel. +1 803 725-2472, fax +1 803 725-3309, email dixon@ srel.edu.

13th International Conference on Statistical Modelling, 27-31 July 1998, New Orleans, Louisiana, USA.

Information: Brian D. Marx, Department of Experimental Statistics, Louisiana State University, Baton Rouge, LA 70803-5606; email brian@stat.-lsu.edu; fax +1 (504) 388-8344; website http://stat.uibk.ac.at/-iwsm.

Taipei International Statistical Symposium, 15-17 August 1998, Taipei, Taiwan

The theme of this symposium is "Recent Developments in Statistical Theory and Applications".

Information: Bureau of Statistics, DGBAS, Attn: 1998 Taipei International Statistical Symposium Organizing Committee, F6, No. 2 Kwang Chow St. Taipei, Taiwan; tel 886-2-2382 3824-9; fax 886-2-2361 6063; email tiss@emc.dgbasey.gov.tw; http://www.dgbasey.gov.tw/ dgbas03/tiss/tiss.htm

International Congress of Mathematicians 1998, Session on Mathematical Software, 18-27 August 1998, Berlin, Germany.

Information: ICM '98, Prof Dr J. Winkler, TU Berlin, MA 8-2, Strasse des 17, Juni 135, D-10623, Berlin, Germany; fax 49/30/314-21604; website: http://elib.zib.-de/ICM98.

COMPSTAT'98, 24-28 August 1998, Bristol, UK.

Information: COMPSTAT'98, Professor Roger Payne, Statistics Department IACR-Rothamsted, Harpenden, Herts AL5 2JQ, United Kingdom; fax +44 1582 760 981; email compstat-98@bristol.ac.uk; website http:/-/www.stats.bris.ac.uk/-COMPSTAT/

International Conference on Statistical Methods and Forest Models, 19-21 May 1999, Moscow, Russia.

Information: Dr Victor Teplyakov, Deputy Head RFFS, Headquarters-Research Department, Federal Forest Service of Russia, Pyatnitskaya Str. 59/19, Moscow 113184, Russia; email tapl@forest.msk.su or George Gertner, Leader IUFRO S4.11.01 (Statistical Methods) W503 Turner Hall, Department of Natural Resources and Environmental Sciences, University of Illinois, Urbana, IL 61801; fax +1 (217) 244-3219; email gertner@uiuc.edu.

52nd Session of the International Statistical Institute, 11-18 August 1999, Helsinki, Finland.

Information: ISI Permanent Office, 428 Prinses Beatrixlaan, PO Box 950, 2270 AZ, Voorburg, The Netherlands; tel 31-70-337 5737; fax 31-70-386 0025; email isi@cs.vu.nl; website http://www.cbs.nl/isi/.

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