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statistical society of australia incorporated

newsletter

31 August 1997 number 80

STATISTICAL SOCIETY OF NEW SOUTH WALES

Editorial Comment

Following earlier discussions involving himself, Helen Newton Turner and Oliver Lancaster, Stewart Rutherford (then Senior Lecturer in Economic Statistics at the University of Sydney) circulated invitations to persons "likely to be interested in the formation of a Statistical Society ..." to attend a meeting.

That meeting was held at the University on 25 September 1947. It was chaired by David Myers, Professor of Electrical Engineering.

Noting that "statistics is becoming the new tool of research in almost every field of human endeavour" the meeting agreed to form a society not restricted to any field and concerned not merely with theoretical problems but also with applications. About 50 persons were present.

The following articles, by Oliver Lancaster, its first Editor, gives some history of the foundation and early years of the Journal.

(In 1962, with the formation of the Statistical Society of Australia, the New South Wales Society and the Canberra Society became branches of the Australian Society.)

On 25 September 1997 the NSW Branch of the Statistical Society of Australia will commemorate the 50th Anniversary of its formation. (See item in NSW Branch Report.) The NSW Branch extends a welcome to all colleagues from other Branches to attend the anniversary meeting and dinner. Please contact the NSW Branch President, Professor David Griffiths (phone 02 4221 4485 or email David_Griffiths@uow.edu.au), or Dr Ann Eyland (email eyland_a@maths.su.oz.au) if you would like to attend.

The Statistical Society of New South Wales and the Statistical Society of Australia

Soon after taking up my position at the School of Public Health, I organized a series of talks on medical statistics under the aegis of the Postgraduate Medical Foundation, ten of them between 11 June 1947 and 13 August 1947 and twelve from 12 February 1948 to 27 April 1948, at an applied level with little mathematics. Miss Helen Turner was very helpful giving five of the talks in the first set and two in the second set. We and others began to plan for a statistical society.

R.S.G. Rutherford had come out to Sydney University as Senior Lecturer by this time. A public meeting was held in 1947 under the chairmanship of Professor D.M. Meyers and the Statistical Society of New South Wales was formed. Helen Turner and Stewart Rutherford gave papers at the first meeting and I gave a paper at the second meeting just before I left for England in July 1948. *The Bulletin of the Statistical Society of New South Wales* began to be published in March 1949. I joined the council only on my return from England.

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I became secretary of the society for several years, with Professor A.H. Pollard then the president. I followed as the president and served later again as secretary and after a short lapse as an ordinary council member. It was decided that we should publish a journal and I was recalled to the secretaryship so that I could be editor of *The Australian Journal of Statistics* with H.S. Konijin and R.S.G. Rutherford as Associate editors. I had been principally responsible for the earlier bulletins' publication until September 1958 when the last number appeared. Although we were only a New South Wales body the name of *The Australian Journal of Statistics* was chosen in anticipation there soon would be a Statistical Society of Australia. The unchanged journal title would also be a great help to librarians.

I was keen to have the Australian journal but I was not confident that copy would flow in to us at a sufficient rate. I was encouraged, however, when Mr D.W. Maitland was able to secure financial backing from commercial and other institutions. My fears about copy were justified when there was little material available for the No. 2 issue in 1964. Fortunately I was able at short notice to bring forward my bibliography of medical statistics in Australia and New Zealand [21] which filled pages 33 to 99. Several papers were then contributed by others which brought the *Journal* up to our required 148 pages for the year. After that, the *Journal* has had no trouble with copy.

It was intended that *The Australian Journal of Statistics* should be of quite general content and I myself had put articles on medical statistics in it and on occasion I wrote mathematical articles, only very short however. As time went on, the journal became more and more mathematical and caused some unease amongst my colleagues. The number of "applied" articles confirmed earlier hopes but increasingly there were articles that appeared practical to those working in the field and "mathematical" to those outside it. Members of distant branches would then complain that they were losing members as a result of editorial policy. When this came up a second time after a year's break, I felt compelled to point out that my department gave more non-academic aid to the Journal a month than the capitation fees of the whole far-distant branch produced for a year.

Since the formation of the Australian body with Professor P.A. Moran of Canberra as first President (I was the second), the journal was assisted by a capitation levy from all the members of the various branches of the Statistical Society of Australia, then numbering somewhere about 600 or 700. It was also arranged that on our management committee, we should have a consultant panel whose membership was carefully drawn from well known people from the different States, so that from the beginning we had an Australian flavour. I thought we should have a special interest in Australian problems and in the earliest numbers of the journal, I set an example with generation death rates for Australia and vital statistics.

Over the years *The Australian Journal of Statistics* has been regarded as one of the world's leading journals of statistics with its policy still tending to be rather mathematical, inevitable perhaps in a big professional society with a subject that has such a broad span of interest. The only common feature is the theory, and the theory of statistics tends to be mathematical.

Considerable feeling was engendered in the Society's Council between myself and others led by Maitland and Rutledge which was really centred about the policy of the journal and whether a certain minimum of mathematics was required. On occasions I thought that they took an unreasonable view. On preparing the history I was greatly impressed with the thoroughness of Maitland as a Secretary but still feel his aims for the Society smacked too much of the anti-mathematical ideas of the official statistician. In particular, although I rewrote some of the applied papers for the journal, few of them possessed enough insight or general interest and they would usually have been better placed in an applied or subject matter journal. Although I sometimes was in a minority of not much more than one, I was never worried. The opposition came to a head at the Canberra meeting of the Australian Society Council, when Stewart Rutherford, who had written or read a paper against my alleged policy of favouring mathematical type articles and had resigned from the Assistant Editorship, allowed himself to be put up for the same job. This was going too far. I had just been reappointed editor and so I said "I will wait outside until you make up your minds, but if you elect Stewart the assistant editor, I will resign". Stewart then withdrew his resignation but there was never a bad word between us. As Henry Konijn once said of Stewart "he does not bear grudges", which is indeed a good trait.

After 13 years as editor, I resigned and later editorial changes made the way for one of my first students and the only councillor who had supported me regularly, to follow in my editorial footsteps. I had done my work, with the *Journal* well established and it was time to rest from patching up applied contributions and other chores. I have never regretted my spell of editorship, 1959-1971; it would surprise others to know how much help and good advice an editor can obtain from near and far. With Australia's limited population, it was an encouragement to receive willing help from refugees abroad who were mere names to me at the time.

H.O. Lancaster, 1996

PRESIDENT'S REPORT

Introductory remarks from Past President, Helen MacGillivray

Amongst a number of developments for the Society since 1990, the establishment of accreditation as an option for members has perhaps had the longest period of incubation and evolution. However this is a reflection on the thought, work and input given to the concept and the process by the whole Society. In many ways, accreditation is a public statement that statistician is a substantive profession, no matter how diverse the jobs and situations in which statisticians work or contribute. It is also a public statement that the statistical sciences comprise a substantial area of knowledge and skill, whose good practice is a professional activity; and that the understanding and application of statistical methods requires a balance of considerable education and experience. Considerations of international consistency also contributed to the model. The balance of considerations and the input from so many members has given the Society an accreditation model that combines a sense of ownership with being part of an international profession.

Report of first meeting of SAI Accreditation Committee

The SSAI Accreditation Committee comprises Michael Adena, Nick Fisher, Richard Jarrett, Jane Matthews, Tony Swain and Dennis Trewin (Chair).

The first meeting of the Committee was held on 16 June, 1997, in Sydney. The President, Helen MacGillivray, attended the meeting by invitation of the Committee. The main outcomes of the meeting were as follows.

1. Benefits to members and to the profession

The Committee noted significant benefits associated with the existence of Accreditation as a service provided for members. Accreditation should help promote Statistics as a profession. At present, there is little recognition of the level of formal qualifications and experience needed for the good practice of statistics. This does little to contribute to the public perception of Statistics as a reputable and serious branch of science, let alone as a professional vocation. Accreditation provides

- a means of enhancing the image of the discipline generally;
- a means of lending credibility to public utterances by professional statisticians on matters with statistical content;
- a signal to users of statistical services that competent practice of statistics requires a certain level of professional education and experience; and
- a means of attracting people into the profession.

2. Publicity

The Committee felt that it was essential to support the introduction of Accreditation with an ongoing publicity campaign, oriented initially towards current and potential members of SSAI, and extending to the general professional and scientific community and to users of statistical services as evidence of the importance of professional competence and experience.

3. Proposed Code of Conduct for SSAI

Accreditation Committee supports the adoption of a voluntary Code of Conduct for SSAI, and believes that it should be an essential element of accreditation.

4. Timetable

An application form and a timetable for introduction of Accreditation will be mailed to all SSAI members around mid-September, and also made available on the SSAI Home Page. SSAI members wishing to be have an application considered in the first round should take careful note of the deadline for submission (likely to be late October).

Helen MacGillivray

NEWSLETTER PHOTOS

The Editors would like to thank all those contributors who sent in photographs for the August edition of the Newsletter - an excellent response! Please keep them rolling in for November.

Eden Brinkley

CENTRAL COUNCIL

REPORT OF THE SSAI ANNUAL GENERAL MEETING

Notes from the meetings of the Central Council of the Statistical Society of Australia Inc. (SSAI) and the Australian Statistical Publishing Association Inc. (ASPAI) held at The University of Sydney, 15 July 1997.

The Australian Journal of Statistics.

The Australian Journal of Statistics (AJS) will merge with The New Zealand Statistician to form The Australian and New Zealand Journal of Statistics (ANZJS) in 1998. The volume numbering for AJS will continue so the 1998 journal will be Volume 40. The new journal will be published by Blackwell Publishers, the group that handles the Royal Statistical Society's journals and several other statistics journals. The ANZJS will be produced in 4 issues per year rather than the current 3 issues for AJS. The journal will continue to have an Applications Section and a Methodology Section. A draft Editorial policy is being considered by both the Central Council and the Executive of the New Zealand Statistical Association. There are several interesting new proposals being considered for the new journal including Web based discussion papers and a proposal from Blackwell to allow subscribing institutions to down load articles from the journal via the Web.

The formal Rule changes relating to the journal name and editorial structure were all accepted at the Society's Annual General Meeting.

Accreditation.

The Accreditation Committee has elected Dennis Trewin as its first Chairperson.

The Committee plans to send details about applying for accreditation to all members of the Society in September.

Code of Conduct

Of those members returning the questionnaire in the May Newsletter 86% were in favour of the SSAI adopting a Code of Conduct. The comments received on the Draft Code in the May Newsletter will be taken into account and minor revisions made. On the basis of the returned questionnaires there appears to be strong support for the proposal that a Code of Conduct be adopted and that it be aspirational for all members of the Society and mandatory for accredited members.

This proposal will be put to the membership once they have had a chance to study the revised Code.

Membership Records.

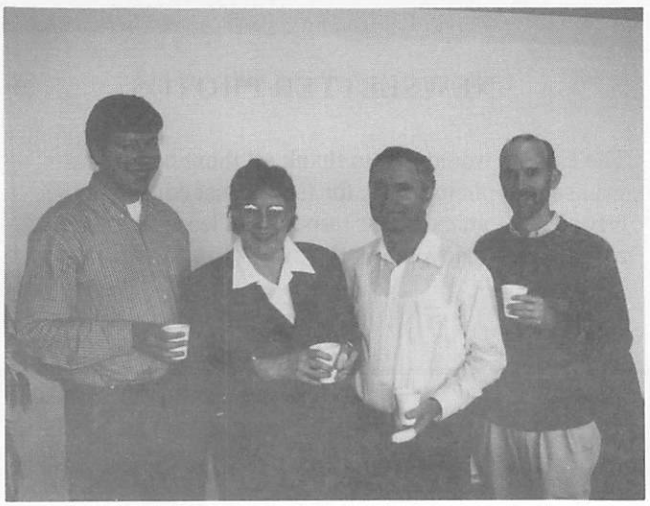
A new consolidated membership database has been established. Limited access to membership details will soon be available via the Web since there was strong support for this in the responses received from members to the questionnaire in the May Newsletter.

Conferences and Workshops.

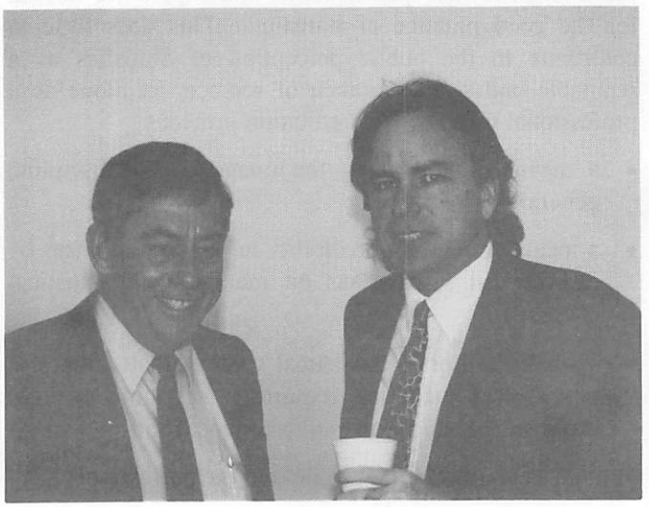
The Second Australian Conference on Industrial Statistics will be held in Melbourne on 29-30 September, 1997. The Workshop for Australia's Young Statisticians will also be held in Melbourne on 1-3 October. Further details can be found in this Newsletter.

Budget

Eden Brinkley presented a draft budget for 1997-98. The capitation fees for 1998 will be held at their current level of $45 for ordinary members.



Rodney Wolff, Ann Eyland, John Rayner and Gordon Smyth chatting at morning tea.



Des Nicholls and Simon Sheather also enjoying the break.

Election of Office Bearers

Professor Des Nicholls was elected President of the Society with Associate Professor Helen MacGillivray becoming the Vice President for 1997-98. Professor Nicholls thanked Helen for all that she had done as President. Special mention was made of her efforts in regard to accreditation, the journal merger and the move to Blackwell Publishers.

The Central Council has appointed Ms Anne Bryant as the Society's Administrative Officer to run the Society's office in Canberra and to assist the Accreditation Committee.

Neville Weber
Hon Secretary

ISI Committee on Women in Statistics

The ISI Committee on Women in Statistics has a website

http://sun.cwru.edu/isi/

Its chair is currently:

Dr Mary H. Regier
Statistics Department
Case Western Reserve University
Cleveland, Ohio 44106-7054, USA
fax +1 216-368-02252

BRANCH REPORTS

New South Wales

50th Anniversary Celebrations of the NSW Branch

The heat is on and the big event for the NSW branch of the SSAI is virtually a few ticks away. Half a century of being at the forefront of promoting the discipline of statistics in New South Wales and we have finally arrived at that last milestone. It is now time to re-evaluate our objectives and define our direction, while remaining cognisant to those fundamental principles that guided us to where we are today. How did we begin, what have we achieved and where are we heading? These and many more issues will be the focus of discussions during the festivities commemorating this important year.

It is not our strategy to have only the branch council or a few elite members of the NSW statistics intelligentsia debate these issues and set the direction for all. Instead, it is considered healthy that every member of the NSW branch acknowledges and exercices their unique right to contribute to pertenent discussions on the future of their society. In this regard, the NSW branch council implores its members to participate "en masse" in the celebrations and discussions taking place in lieu of this important event.

The 50th anniversary celebrations will take place on Thursday 25 September at the University of Sydney main campus and will begin at 5.00pm, with arrival of delegates, until 11.00pm. The program of events will include afternoon tea followed by seminars presented by Dr Ron Sandland, Chief of CSIRO Mathematical and Information Sciences division and Professor Eugene Seneta, professor of Mathematical Statistics at University of Sydney. The seminars will be held in the Edward Ford Building and will be followed by dinner at the University of Sydney Staff Club. Pre-dinner refreshments and a luscious three-course meal will be accompanied by a summation of the main theme: Reflections on Statistics: 1947 to 1997 to ..., given by Professor Gavin Brown, vice Chancellor of the University of Sydney. The talks will cover three fundamental areas: the foundation of the NSW branch, its growth and development and its future. There will be ample opportunity to meet statisticians from diverse backgrounds and to reunite with former colleagues and regain contact with friends from the past. For young statisticians in particular, this event will provide a firmer grasp of the history, strength and identity of the forum which they have chosen to belong to; the New South Wales branch of the Statistical Society of Australia.

To secure your place at the 50th anniversary celebrations, please contact Dr Anne Eyland to obtain a registration form. Further information from:

Dr Ann Eyland, 57 Abingdon Road, Roseville NSW 2069
Email: eyland_a@maths,su.oz.au; Fax: (02) 9416 7679

Amidst the perpetual frenzy of preparations towards our 50th anniversary celebrations, let it not be said that the NSW branch has suspended all other activities. Much to the contrary, the last three months have been punctuated with two interesting talks and a number of other events.

SDs: Statisticians and Drugs

Once again, another exotic location for the New South Wales branch meeting for the month of May. This time members were given the privilege of roaming freely around the luxurious premises of the Sydney head office of Astra Pharmaceuticals, under the illusive pretence of finding their way towards the meeting venue. While direcctions clearly indicated entrance tot he car park via the North end of Talavera Road, some, and I dare include myself, chose for the sake of adventure to find parking at the south end of the premises. This ensured the opportunity for that scienic walk towards the meeting venue, along the undulating footpaths entangled around modern glass-walled buildings separated from each other by large areas of finely mowed lawns, in the midst of which appeared impressive tennis courts. The style, impeccable; the sight, quite attractive; the turn-out and cheerful conversations, most encouraging. There is no doubt that these monthly meetings are worth making the effort to attend.

The speaker for the day was Caro-Anne Badcock, statistician at Astra Pharmaceuticals. Caro's main message explained the role of statistics and statisticians in the pharmaceutical industry, giving some insight into Australia's global contribution to the industry. Sad as it was to learn that Australia accounts for only 1-2% of the world market, it was relatively encouraging to know that 15% of the Australian market was captured by Australian owned companies.

The statistician's role in this industry was explained as being largely centred around clinical trials. The pathway of drug development, prior to engagement of clinical trials was said to last up to five years from conceptualisation to finish of the drug. This phase involved mainly pre-clinical studies covering from two to four years investigating the chemistry and pharmacology of the drugs, followed by further processing that could last two to six months. Only after this phase are clinical trials enacted, starting from Phase 1 trials all the way up to past-marketing surveillance, otherwise known as Phase 4 studies. From my perspective, it was interesting to learn that the research did not end at Phase 4 studies. Beyond this stage comes a number of non-clinical studies. These involve pharmaceutical validation, quality assurance and stability assessments. The latter follows FDA guidelines in regulating expiry dates while the former makes use of statistical methods in determining quality acceptance criteria. It was clear that while the statistician's role in the international pharmaceutical

industry is substantial, the direct contribution of statisticians in the Australian context still has plenty of potential for growth.

Recent Experience of Problems in Statistics and Probability from the Telecommunications Industry

The month of June entertained an interesting talk from Dr Daryl Daley of the Centre for Mathematics and Applications, Australian National University. In a style that was unique in its own right, Daryl gave an interesting talk on aspects of queuing theory with little or no mathematical formulae.

His main message was centred on the queuing inference engine which produces transactional data. With normal probability models, one would largely assume independent random variables. However, with queuing models, assumptions are made about several elements, such as the arrival process and the service process. Together, these describe the behaviour of a system and hence, the properties of the model.

The question that arises is how to implement the model, the answer requiring an understanding of transactional data, an example of which is seen with ATMs. An assumption of poisson arrivals is made. With several servers it is not always possible to know arrival times but information is available on when service starts and ends. Thus, the arrival rate is at least equal to the service rate. In the case of ATMs, the aim of the analysis would be to estimate customer loss rates given a number of assumptions on the arrival process. The problem is to determine an appropriate set of assumptions regarding the likely sample path. In other words, which function would best describe the type of random walk for the problem at hand. To this extent, Daryl entertained us with suggestions of different types of random walk processes including ordinary brownian motion, a bridge process, meandering and the excursion process.

For those unfamiliar with some of these concepts, they at least provided some good entertainment.

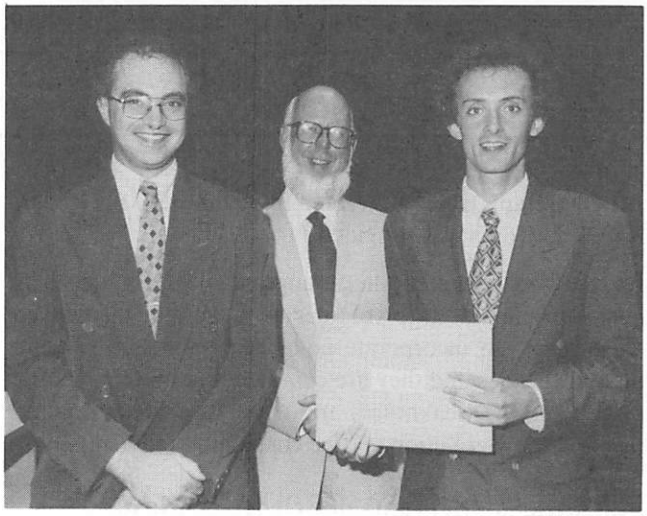
Commerce and Economics Prizes from New South Wales Branch

The New South Wales branch received an expression of thanks from the Faculty of Commerce and Eonomics, University of New South Wales, indicating their appreciation to the branch for awarding the prize for the best student in statistics. Congratulations to the recipient of the prize, James Ian Vickery.

New Members

The NSW branch is happy to welcome four new members: Peter Bell, Chin Yen Foo, Harley Poyton and Carolyn Breiphol. Rest assured, you have made the right decision and we all look forward to meting with you at the monthly branch meetings. We trust you will yoin us in celebrating out 50th anniversary.

Abie Ekangaki



James Vickery (right) was presented with his prize by Bruce Fraser (left), the NSW branch representative, who was joined by Professor Charles McGilchrist (centre)

Victoria

Artificial Neural Networks (ANNs): What, Why, Where and When

In March Associate Professor Andrew Flitman from the Department of Business Systems at Monash University addressed the society and spoke on 'Artificial Neural Networks (ANNs): What, Why, Where and When'. Dr. Flitman provided an excellent introductory talk on ANNs using footy tipping data.

What: ANNs are based on simulations of the brain and have nice graphical representations. ANN architecture comprises an input layer (independent variables), a hidden layer (functions like arctan and logit) and an output layer (predicted variables).

Why: They predict some outcomes very well (they work) and can incorporate non-linear models.

Where: When we require predictions of Sales Forecasts, Capital Budgeting, Race Handicapping and Option Pricing.

When: When the importance is in understanding the underlying data or just predicting the results.

Also when assumptions cannot be made about the underlying distributions in the data. Using the footy tipping data, the network results out performed human experts.

	Neural Network 1	Neural Network 2	Human Expert 1	Human Expert 2
% Correctly Predicted	77.6	73.7	70.2	68.9

An important table of terminology for new players in neural networks was provided.

In summary some of the strengths of ANNs are their ability to handle large volumes of noisy and incomplete data, ability to incorporate non-linear models, there are no known rules and they are completely adaptive. On the other hand the weaknesses are they lack explanation and the structure derivation is time consuming (an art).

Statisticians - Servants of Science or Master Scientists?

In April, Dr. John Hopper presented a talk entitled "Statisticians - Servants of Science or Master Scientists?" Dr. Hopper outlined the crucial role that professional statisticians can play in modern Epidemiology with important contributions required at the design and analysis stages of each piece of work. He emphasized that the role of statistician is not one that should be approached timidly and clearly felt that "master scientist" was the more appropriate term.

The new President, Geoff Laslett, working with Jane Mathews, a member of the Pitman Medal/Honorary membership committee

The two main factors affecting health were smoking (responsible for a large proportion of the major causes of death such as cancer and heart disease) and a modern western lifestyle (making living easier and more comfortable but increasing the risk of major chronic diseases including heart disease and some cancers). Statisticians have played a very strong role in the extensive research used to support both of these claims.

In particular, Dr. Hopper described work with the Australian NHMRC Twin Registry from which many studies had drawn participants. Twin studies naturally control for age, sex and genetic factors, and they also allow inference to be made about the possible role of genetic factors on disease, and on disease-causing processes, by comparisons between identical and non-identical pairs.

Further studies were described that highlighted the need to take great care when selecting samples and interpreting data and that such aspects were no place for amateurs. Numerous careless analyses are being done and reported.

Strengths and Weaknesses of Excel for Statistical Analysis

At the May Meeting Prof Alan Welsh of the Centre for Mathematics and its Applications of the ANU gave a graphic and good humoured demonstration of some of the strengths and weaknesses of Excel (5.0, 5.0c) when used for statistical analysis. Using three data sets he discussed in particular the procedures for graphics, hypothesis tests, regression and (cross)tabulation.

While Excel can carry out a wide range of statistical analyses, the command sequence is not particularly natural and there is no record kept of the executed commands that can be edited and then reused. The standard graphics are not particularly useful for statistical work and do not include things like box plots or Q-Q plots as standard. The logic of what is possible and what is not is hard to fathom and there are some persistent errors and curious omissions.

Some features such as the hot link between data and charts can be a nuisance at times as the original graphs are not saved when the data is changed. However this can provide a useful teaching demonstration, for example by dynamically investigating the effects on a regression line of changing some data points.

Alan was most enthusiastic about the use of pivot tables for cross tabulation as this provides as interactive tool for making changes to a table by such things as including or excluding variables, changing their position from row to column and collapsing over a variable.

Given the pervasiveness of Excel it seems that an emerging common approach to using computer packages in teaching is to start with Excel for students who are familiar with it and later move to a specialist statistical package more appropriate to the type of statistics being taught. Alan's talk provided useful insights into the kind of problems to be faced when adopting this approach.

Geoff Bruton

Queensland

Biometry and Agricultural Statistics

Following the formal part of the May meeting of the Queensland Branch, Associate Professor Kaye Basford (Agriculture Department, University of Queensland) addressed the Branch with some comments on biometry and agricultural statistics.

Kaye has as statistician colleagues in her department Jan Priest, a statistical consultant, and Robin Griffin, a systems analyst. Kaye discussed some of their experiences in teaching within a non-statistics or non-mathematics department, and reflected on the importance of teaching statistics in context and the responsibility to increase statistical literacy. (The timeliness of this comment was noted as an aside ... "Statistics in Context" is the theme of the next Society conference at the Gold Coast in 1998, which this Branch is organising.) Kaye's aim in teaching is to train intelligent users of statistics, particularly when challenged with students who are not inherently interested in the subject.

It was acknowledged that her context of teaching provides limited opportunity to train 'well-rounded' statisticians, but there is much scope for encouraging and facilitating useful interaction of statistically literate students of agriculture with professional statisticians. Undergraduates with diverse interests in plant breeding, plant nutrition, animal science, crop and pasture science, soil science, agricultural economics and rural extension are given an appreciation of applications and are trained to interpret analyses sensibly, particularly with a broad experience of computer packages (and all of their limitations and pitfalls). Graduate students are further taught how to assess critically published work: agricultural literature abounds with statistics, some of it needing careful scrutiny!

The Queensland Branch (or some of them) hard at work! From left, Gordon Smyth, Jan Priest, Helen MacGillivray, Rodney Wolff, Kerrie Mengersen, Walter Robb, Margaret Mackisack and Kaye Basford.

Kaye and Jan have found that, by involving a statistical consultant in teaching, students become used to obtaining statistical advice which is incidental but important to their work, and so go on to develop their own statistical skills, the greatest of which is perhaps having the courage to ask a statistician for advice!

Kaye went on to discuss some of her research interests which embrace applied multivariate analysis, especially clustering and ordination methods which are particularly relevant to large-scale plant breeding trials. To illustrate an aspect of this wide-ranging research activity, Kaye concentrated on a specific three-way data set arising from a soybean trial in which 58 lines were grown in eight environments and six attributes (yield, plant height, lodging, seed size, protein content and oil content) were to be analysed. Representation of multivariate data is ever problematic, but Kaye illustrated some of her methods which were developed in collaboration with John Tukey (Princeton University, USA). Overlap plots, depicting least significant differences (amongst other measures of difference) were adapted into 'staircase' plots, so that departures from an ascending staircase pattern could easily point to genotypes which were substantially different from others. Kaye further showed how such plots could be made semi-graphical, so that actual numerical information could directly comprise aspects of the plot. Aperture plots across profiles were also presented. The data were also analysed using an orthonormal re-expression which relied on an ordering of importance of the attributes.

The audience of 22 contributed to a lively discussion afterwards of what was a salient lesson in the need for clarity, flexibility and novelty in presenting complex data sets. Some of that number joined the speaker at dinner, sampling not soybeans but some of the best calzone style pizza available in the realm.

Rodney Wolff

South Australia

SA Honours Scholarship 1996

The 1997 Statistical Society of Australia Honours Scholarship was awarded to Kirk Hampel of the University of Adelaide.

SA Branch Council 1996:

The South Australian Branch Council for 1996 is

President:	Sandra Pattison (NCVER Statistics Division)
Vice-president:	Dr Ian Saunders (CSIRO Mathematical and Information Sciences)
Past-president:	Dr Brenton Dansie (University of South Australia)
Secretary:	Dr Gary Glonek (Flinders University)

Treasurer: Dr Bronwyn Harch (CSIRO Mathematical and Information Sciences)

Council: Dr Glenys Bishop (Univ. of Adelaide)
Lynne Giles (Flinders University)
Prof Richard Jarrett (Univ. of Adelaide)
Dr Ari Verbyla (University of Adelaide)

Symposium in Honour of John Darroch

The South Australian Branch held a one day symposium on 21 February at the Flinders University to mark the retirement of Professor John Darroch. John, who was Professor of Statistical Science at Flinders University for 30 years, is also a past President of the Statistical Society of Australia (Inc) and of the Biometrics Society, Australasian Region.

John is well known for his seminal contributions in the areas of multiple-recapture experiments, multi-factor contingency tables, the iterative proportional scaling algorithm and graphical models for contingency tables. He has published more than 50 papers across a broad range of areas within Statistical Science and has supervised several graduate students.

The symposium was attended by 33 people including five interstate visitors.

The first talk of the day was presented via the teleconferencing facilities by Professor Terry Speed of the University of California, Berkeley. Terry gave an entertaining overview of John's career and their previous collaborations. He drew special attention to John's important contributions with Doug Ratcliffe in the area of iterative proportional scaling. The remaining talks were delivered in the conventional way.

The next talk was given by Dr Philip McCloud of Monash University. "Quantification of an Automatic Inspection Process". David Bull Laboratories Pty Ltd (DBL) is an Australian company whose Melbourne plant manufactures injectable pharmaceuticals such as anti-infection and anti-cancer treatments. DBL was founded by David G. Bull in 1915 and in those days they manufactured commercial vaccines. They requested our assistance with an automatic inspection process of ampoules or vials of medicine.

Glass ampoules are supplied to DBL totally sealed and sterile. Before the ampoule can be filled with pharmaceutical the top is removed by cutting it with a hot wire. Sometimes during this process small particles of glass will enter the ampoule. Even after washing some will remain, and be present in the ampoule when it is filled with pharmaceutical and rescaled. The final inspection of the ampoules should detect these particulates and reject impure ampoules.

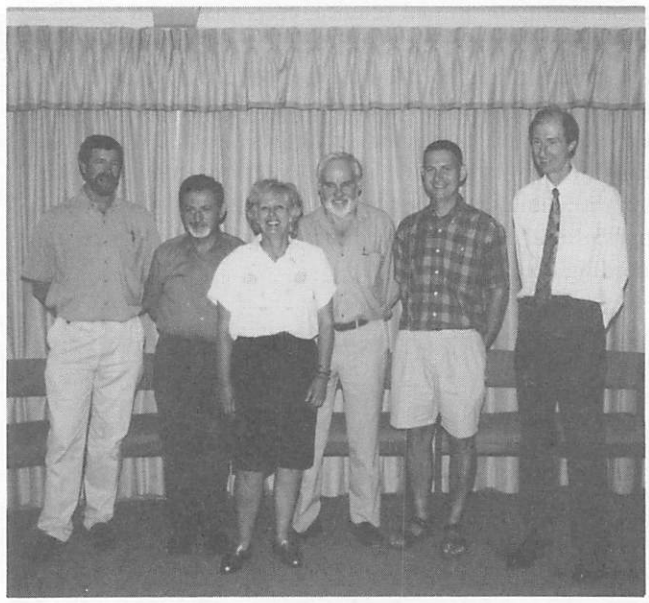
In the past the final inspection has been done by human operators. DBL had purchased three machines that use a laser ray and photography to detect the impurities. There are six settings on the machine that determine its sensitivity and specificity. By sensitivity we mean its ability to correctly reject an impure ampoule. By specificity we mean its ability to correctly accept a pure ampoule.

DBL was experiencing some difficulty in getting a reliable performance from the machines; hence their request for our assistance. The statistical issues were: how do we measure the performance of, and find the best settings for the machines? The approach and solutions to these problems were described.

The data were analysed as categorical repeated measurements and analysed via a model which is an extension of quasi-symmetry. The talk concluded with a brief description of this approach.

In the final session of the morning, Professor Brian Abrahamson and Dr Heather Whitford both of Flinders University, shared their reminiscences of John as a colleague at Flinders University and, in Heather's case, a supervisor.

Beginning in 1967, Heather completed both an MSc and a PhD at Flinders University and during that time John Darroch was her supervisor. John's influence as a teacher and supervisor were highlighted as well as his many and varied sporting pursuits. In 1967 he was interested in surfing and later wind surfing and hang-gliding. His most recent interest is in playing golf and the talk concluded with a mathematical model for golf scores.



John Darroch (fourth from left) with former graduate students (from left) Ian James, Eugene Seneta, Heather Whitford, Gary Glonek and Phil McCloud.

This model gives the score as the sum of a constant plus a random variable which has the Poisson distribution.

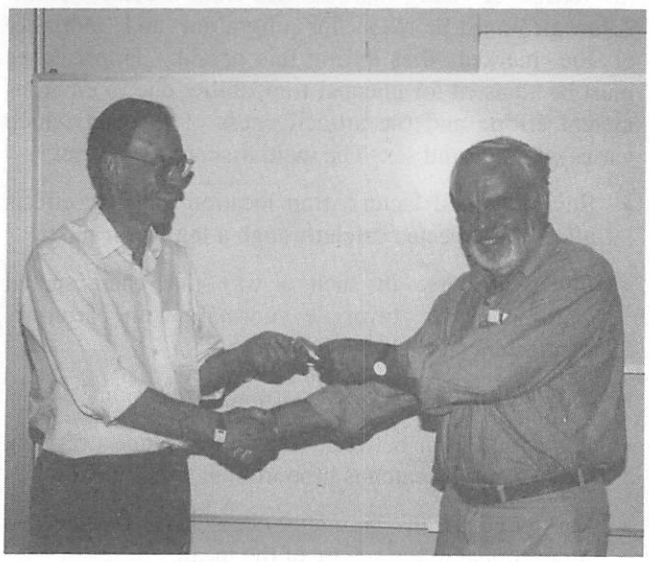
Following lunch, Professor Eugene Seneta of the University of Sydney spoke on "John Darroch at Adelaide University, 1962-1964: a student's reminiscence". The speaker presented a review of the situation in Mathematical Statistics courses at Adelaide University in these years, especially those taught by John Darroch in 1963: the third year course Mathematical Statistics II and the fourth year course Markov Chains. There were a

number of reminiscences about the speaker's MSc, supervised by John Darroch in 1964, along the lines of "My salad days, when I was green in judgement" and the subsequent effects of this work initiated by the paper Darroch, J.N. and Seneta, E. (1965) "On quasi-stationary distributions in absorbing discrete-time finite Markov chains". *Journal of Applied Probability*, 2, 88-100.

The next talk was given by Dr Graham Constantine of CSIRO, Mathematical and Information Services, Adelaide. Graham spoke on "Modelling Pipeline Failure Patterns".

Graham Constantine and Ros Miller of CSIRO had an enjoyable collaboration with John Darroch in a project involving the modelling of water main failure patterns. The object of the study was to enable the prediction of future failure numbers of water main assets. They modelled the failure events as a non-homogeneous Poisson process using extensive data sets from Melbourne Water. Some interesting problems of estimation arose. These were explained and demonstrated.

This was followed by Dr Gary Glonek of Flinders University who spoke on "Modelling Multivariate Categorical Data". In this talk an overview of simultaneous marginal and conditional modelling techniques was given. The links between these models and John Darroch's earlier work on contingency tables and iterative proportional scaling were emphasized.



Richard Jarrett (left) presenting John Darroch with the cheque.

The final speaker was Professor Ian James of Murdoch University who spoke on "Assessment of Treatment Efficacy in HIV AIDS". The assessment of treatment effects in HIV/AIDS from observational studies is complicated by many issues, including the need to adjust for disease markers over time and the possible effects of the treatments on the markers themselves. These effects may bias the results if the 'standard' time-dependent analyses are carried out. A number of the issues and problems arising in analysis of the WA HIV Cohort were discussed.

The meeting then concluded with a brief ceremony in which John was presented with a cheque to be used toward the purchase of a compact disc player for his car. A dinner in John's Honour was held that evening at the Wakefield Tavern.

Creating Value for Students of Statistics

For most of its history the discipline of Statistics has relied heavily on its ability to provide training to a broad range of disciplines to help support the cost of training its own students. Recent funding changes have made this link more obvious and more tenuous.

Our provision of teaching to other disciplines has not always been highly valued. Brenton Dansie of University of South Australia spoke on how we might consider the problem of improving the value of our teaching primarily to other disciplines but also to students majoring in Statistics. In the talk he discussed various views of the nature of the profession and the role that it plays in other disciplines. He considered various statements currently being made on the desirable qualities of a University Graduate and investigated the role that Statistics has to play in their development.

He concluded by considering how ideas raised by this analysis might be integrated into our teaching practice to have an impact on creating value for students of Statistics. Audience participation was actively encouraged!

Biographical: Brenton Dansie is a Senior Lecturer in Statistics at the University of South Australia. His current interests are in areas related to the teaching of Statistics, particularly for students studying in other disciplines. He is currently working on the development of collaborative methods of student learning in Statistics. His other main interest is Quality Management, which he teaches in the Business School and which forms the basis for a range of consulting activities. Brenton is married to Dianne and they have three children aged 11, 9 and 6.

On the Role of Social Capital in Youth Crime: A Dynamic Structural Approach

Criminality was studied in a dynamic context by introducing social capital into the economic theory of crime by Jenny Williams of University of Adelaide.

Social capital measures the extent to which an individual is bonded to legitimate society. According to the social control perspective, bonds to society strengthen as the individual ages, increasing the cost of deviant behaviour, making criminal acts less likely. This hypothesis is consistent with the temporal pattern displayed in aggregate arrest data. The model was empirically implemented using panel data on a sample representative of young men in urban areas of the United States. Estimation was complicated by an omitted regressor problem, which arises because choices in future states not realized are unobserved. This issue was resolved by replacing the unobservables with Monte Carlo draws from the conditional empirical distribution of observed outcomes and using a Method of Simulated Moments

estimator. The results provide evidence in support of a social capital theory of crime. It was found that social capital affects both preferences and earnings in the legitimate sector. Further, as predicted by social control theory, social capital becomes increasingly important over the life-course.

This raises the cost associated with crime, making its occurrence less likely.

Biographical: Jenny Williams recently joined the University of Adelaide's Economics Department after completing her PhD at Rice University in Houston, Texas. She has been employed as a consultant for Abt Associates, in Washington D.C, a research officer at the Department of Prime Minister and Cabinet and a research assistant at the Research School of Social Sciences at the Australian National University. Her current research and teaching interests include applied econometrics, applied micro-economics and labour economics.

Time-Series Models for the Murray Mouth System

The River Murray drains an area of one million square kilometres, or one-seventh of the Australian continent, but in 1982 the mouth closed for several weeks, and almost closed again in 1983. Since that time there has been considerable interest displayed by the State Government in managing the river flow in a way that will keep the mouth open. Time-series modelling begun by David Walker in 1990 has been extended by Ross Frick and Chris Elford of The University of South Australia over the past three years to include barrage-opening information and salinity measurements in Lake Alexandrina. Model selection is by trial and error, using recursive estimation methods. A single-output model is now able to predict with modest accuracy the size of the mouth one month ahead, and a multiple-output model has been used to predict the salinity at Milang. The object is to create a model for simultaneously controlling Lake salinity and mouth size by means of barrage-opening strategies.

Biographical: Ross Frick is a Senior Lecturer at the University of South Australia, where he has lectured for many years in time-series analysis, spectral analysis, and related fields, mostly to engineering students. Chris Elford has B.Eng.(Hons) from the University of South Australia, and is currently working towards a Master of Applied Science in Mathematics.

An Extended Model Syntax for Designs Involving Homologous Factors

The structure of statistical data is often determined by a set of factors that may be experimentally controlled, as in the case of a factorial experiment, but may also include responses as in the case of a contingency table. In many such cases the data can be analysed by using a generalized linear model and the availability of a suitable model syntax greatly facilitates such analyses.

However, it sometimes happens that two or more of the factors are homologous, in the sense that they have the same set of levels. For example, homologous factors arise in studies involving repeated categorical measurements and in certain genetic experiments. In such situations the data can still be analysed by generalized linear models but many of the most useful models involving homologous factors are not be expressible in terms of standard model formulae and can only be fitted by explicitly specifying a basis for the model space.

In his talk, Gary Glonek of The Flinders University of South Australia proposed an extension to the standard model syntax. The extended syntax is shown to facilitate a more systematic exploration of relevant models in this context.

Biographical: Gary Glonek is a Lecturer in the Department of Mathematics and Statistics at Flinders University. His research interests include analysis of multivariate categorical data, image analysis, and compositional time-series.

Estimation of Insect Population Density, Dispersion Rates and Unequal Trappability from Serial Recoveries of Marked Flies

Richard Morton of CSIRO presented for the analysis of mark-recapture data for mobile insects in an open population. Wild and marked flies were caught in arbitrarily placed traps over several consecutive days after the release of young marked flies from a central point. Allowance must be made for migration and mortality of the marked flies during this period. Trap catches must be adjusted for unequal trappability due to environmental effects and the attractiveness of the bait which varies with age and sex. The main assumptions were:

- Environmental factors, trap location and age effects affect the expected catch through a log-linear model
- Insects disperse in such a way that their spatial distribution is bivariate normal with arbitrary parameters on each occasion
- Survival times have a log-normal distribution
- For comparison between traps on any one occasion, variance of the catch is proportional to the mean
- For comparison between occasions, variance is proportional to the square of the mean.

The resulting estimate of the population density was shown to be a generalization of the Lincoln index.

This method was applied to data on trap catches of Australian sheep blowfly, obtaining improved estimates of the population density and, for the first time, estimates of dispersion and survival in the field.

Biographical: Richard Morton is a Senior Principal Research Scientist with CSIRO and has nearly 20 years' experience analysing data sets from Entomology and other biological and environmental sciences. He has published many applied papers as co-author, and several theoretical papers in GLMs and related topics. Before

joining CSIRO, he was Senior Lecturer in Mathematical Statistics at University of Manchester, UK.

Gary Glonek

Canberra

Residual Variance Heterogeneity in Mixed Model Analysis

In May the Branch was addressed by Ms Alison Frensham of the South Australian Research and Development Institute (SARDI). She spoke about accommodating heterogeneity in residual variance by modelling the variance as a function of explanatory variables. This approach has been successfully developed for the fixed-effects linear model: Alison described its implementation in the mixed linear model.

She illustrated her talk with two examples. The first concerned a large trial of oat varieties over three years at 22 locations in Victoria and South Australia. A model of the residual variance is used to identify oat varieties with small variation across locations and years. Locations with large variation are also identified, with a view to discarding unreliable locations from the trials.

The second example was a set of calibration data, initially analysed in a paper by Davidian and Giltinan. Eleven experiments to measure optical density at different concentrations of DNase were analysed. A plot of the data showed that although the variation between densities at the same concentration was small, it was nonetheless heterogeneous, and Davidian and Giltinan modelled this heterogeneity by a "power of the mean" model. However Alison was able to show that a linear model relating residual variance to concentration accounted for much more of the structure in the variance. The resulting residual plot as one about which any consulting statistician would be "ecstatic"!

On that high note, Branch members adjourned to a nearby restaurant for dinner, boldly ignoring its recent poor performance in a newspaper restaurant review.

Some issues in Econometrics

On the eve of his departure for the United States, Dr John Robertson of the Department of Statistics and Econometrics at the Australian National University (ANU) spoke to the Branch in June on some issues in econometrics. He pointed out that many econometric models looks like regressions but are not, because of their correlation structure. In these cases, ordinary least squares estimation is replaced with various versions of the so-called generalised method of moments (GMM).

John then introduced the problem of "weak instruments" in GMM, where the correlation between certain variables in an econometric model is small. This can lead to tests with very low power and unbounded confidence intervals. Research is focusing on how methods such as the bootstrap and exponential tilting can help in such cases.

He also discussed the effects of special properties of time series on inference, including the fact that certain linear combinations of non-stationary time series can actually be stationary.

John commented on the influence statistics has had upon econometrics, particularly in the area of exploratory data analysis. The quality of forecasts, which are the ultimate objective of most econometrics, has greatly improved as a result.

In terms of criticisms of econometrics, John pointed out a lack of interest in standard errors and an obsession with consistent estimators.

His criticisms of statistics ... well, at that point it was time for dinner at the one remaining Vietnamese restaurant in O'Connor!

Applications of Statistical Shape Analysis

The July meeting of the Branch was addressed by Dr Ian Dryden, who was on his way home from the University of Chicago to Leeds by a circuitous route.

In his talk Ian concentrated on applications of shape analysis. Shape analysis is concerned with those aspects of configurations of points or landmarks which are invariant under translation, scaling and rotation.

The landmarks may have some biological or physical significance, eg. well-defined points on a skull, or they may be defined mathematically, eg. points of maximum curvature. Sometimes it is important not to rotate; for instance, in automatic recognition of (British) postcodes the letter 'W' must be distinguished from 'M'.

Ian talked briefly about the history of the topic, including the diagrams from D'Arcy Thompson's 1917 book "On Growth and Form" showing how the shapes of related species can be mapped onto each other, and the initiation of modern work by D.G. Kendall and F.L. Bookstein. The notorious robber, Procrustes, was mentioned. Ian showed the power of complex least squares in transforming one configuration to make it fit as closely as possible to another. He also described a resistant method which uses a least median of squares criterion for goodness of fit.

His examples included the comparison of the brains of schizophrenic patients and normal individuals, the identification of strains of malaria from electrophoretic gels, and the comparison of vertebrae of large and small strains of mice.

Ian took the snoring from the dress circle in his stride.

After the meeting members and the speaker banqueted at the Shalimar restaurant.

Alice Richardson

HONORARY LIFE MEMBERSHIP AND THE PITMAN MEDAL

The Committee to consider nominations for Honorary Life Membership and the 1998 Pitman Medal will meet later this year. Members of the Society are invited to contact their Branches if they wish to suggest possible candidates. Nominations and supporting cases for consideration by the Honorary Life Membership Committee should be submitted through Branches to the Secretary of the Society by 14 November, 1997.

Neville Weber

YOUNG STATISTICIANS SECTION

Victoria's Young Statisticians Dinner

The inaugural dinner for Victoria's "young" statisticians was held on 26 July at a quaint Italian restaurant in Melbourne. It gave professionally young statisticians the opportunity to meet their peers. A dozen people attended the informal event to discuss their esoteric work environment; with the only cloud of the evening was the time restriction.

Michael Kunkler

ANNUAL REPORT

(This is the official Annual Report of the Society)

April 1996 to March 1997

The society was founded in 1962 as a national "umbrella" organisation to support and further the work of the state statistical societies. The overall objective of the Society is to further the study and application and good practice of statistical theory and methods in all branches of learning and enterprise. The society is incorporated in the Australian Capital Territory (ACT). The constitution was revised in accordance with the Associations Incorporation Act 1991 (ACT) on 7 May 1993.

In order to hold Annual General Meetings of both the Society and the Central Council in association with Australian Statistical conferences or other mid-year conferences, the financial year for the Society is from 1 April until 31 March. Branches may choose, through their own constitutions, to retain a different financial year.

1. Membership of the Society

Based on the capitation fees in 1996 the Society had 834 ordinary members, 114 student/retired members, and 10 honorary life members, making a total of 958. Equivalent figures since 1990 are 871, 906, 897, 910, 954 and 952. These figures do not take into account those capitation fees in arrears.

2. Central Council

The Annual General Meeting of the Society was held at The Wentworth Hotel, Sydney on 10 July 1996. The Annual General Meeting of the central Council was held at The Wentworth Hotel, Sydney on 7 July 1996 and a general meeting of the Council was held on 19 February 1997 at The University of Sydney.

The Central Council for 1996 comprised:

President	Associate Professor Helen MacGillivray
Vice-President	Professor Des Nicholls (from July 1996)
Editor	Professor Ian James (until December 1996)
	Professor Simon Sheather (from January 1997)
Secretary	Dr Neville Weber
Treasurer	Mr Eden Brinkley
Branch Delegates	
Canberra	Dr Michael Adena, Dr Terry O'Neill
New South Wales	Professor David Griffiths, Ms Caro Badcock, Mr Woh Choo, Dr Ann Eyland
Victoria	Mr Nick Garnham, Mr Geoff Bruton, Mr Memhat Tat
Queensland	Dr Margaret Mackisack, Mr Rodney Wolff
South Australia	Dr Brenton Dansie, Dr Gary Glonek
West Australia	Dr K. Vijayan, Dr Ian Wright

Scholarships for the honours Year in Statistics were awarded to:

Canberra	Lisa Zimatit
New South Wales	Andrew Hayden and Jean Yang
Queensland	Yen Ching Wong
South Australia	Liana Luzzi and Nicole Chamberlain
Victoria	Janine Dixon, David Middleton and Tanya Smith
West Australia	Hai Dam

3. Association with other bodies

The Society is an affiliated organisation of the International Statistical Institute, with the President as the Society's ex-officio member.

The Society is a constituent member of the Australian Mathematical Sciences Council, and through this Council a member of the Federation of Australian Scientific and Technological Societies (FASTS). Mr Nick Garnham and Dr Ron Sandland represented the Society on the Council.

The Society was represented on the National Committee for Mathematics of the Australian Academy of Science by Associate Professor Helen MacGillivray.

The Society is a corporate member of the New Zealand Statistical Association.

The Society is represented on the Australian Statistical Advisory Council by Dr Ron Sandland, and on Committee QR/4 - Statistical Quality Procedures of the Standards Association of Australia by Dr Geoff Robinson.

The Society is an Associate Member of the Australian Geoscience Council, and its representative is Dr Nick Fisher.

The Society is a member of the Australian Foundation of Science. Professor Chris Heyde is a member of the Board of Directors and Professor Sue Wilson was the Society's representative this year.

4. Finances

The Society's financial affairs for the year are detailed in the Financial Statement.

The capitation fee for 1996 was $45, comprising an ASPAI (Australian Statistical Publishing Association Inc) component of $22 and a general component of $23. The financial state of the Society is generally healthy.

Central Council warmly thanks Mr David W. Sistrom for his time and effort in auditing the accounts.

5. The Australian Journal of Statistics

At the Annual General Meeting in July the Central Council of the Society voted unanimously to merge *The Australian Journal of Statistics* (AJS) with *The New Zealand Statistician* to form *The Australian and New Zealand Journal of Statistics* (ANZJS). The merger will take effect in 1998. The volume numbering for the AJS will continue with Volume 40 being the first issue with the new journal name. Final details of the editorial structure are still being negotiated with the New Zealand Statistical Association (NZSA).

There was also general support at the AGM to pursue the possibility of the new journal being published by an international publisher. It was felt that such a move would lift the international profile of the journal as well as positioning the journal to take full advantage of the move to electronic publishing. Negotiations continued with several publishers in 1996 and a decision on the publisher of the ANZJS will be made in collaboration with the Executive of NZSA in the first half of 1997.

6. Accreditation

At the Annual General Meeting in July the changes to the Rules to allow the introduction of optional accreditation were passed. This vote was taken after extensive consultation and discussion over a number of years. In the August 1996 Newsletter the Central Council called for expressions of interest from senior statisticians to be members of the initial Accreditation Committee of the Society. At the February meeting of Central Council the Accreditation Committee was appointed, as reported in the March 1997. Newletter, and the first call for applications for accreditation will be made during 1997.

7. Conferences, Workshops and Symposia

The Sydney International Statistical Congress 1996 took place at the Wentworth and Intercontinental Hotels from July 8 - 12. Associated with the Congress were nine satellite meetings, many arranged by the Sections of the Society. The Congress was an outstanding success due to the efforts of Dr Nick Fisher and his team. A full report on the Congress and the workshops can be found in the Newsletter and on the Web via the Society's page.

A report on the WAYS-96 meeting held in Wagga Wagga can be found in the November 1996 Newsletter.

8. Awards

The 1996 Pitman Medal was awarded to Professor Warren Ewens on 10 July 1996 in recognition of his distinguished contributions to the mathematical and statistical aspects of genetics. A full report appears in *The Australian Journal of Statistics* **39**, 1-4.

The first E.J.G. Pitman Prize for the most outstanding paper presented by an young statistician at an Australian Statistics Conference was presented to Steve Davies on 12 July 1996.

Dr Matthew Wand from the Australian Graduate School of Management was awarded the Moran Medal by the Australian Academy of Science for his contributions to the development of non-linear regression models.

9. Named Lectures

The Belz Lecture was given by Professor Simon Sheather at a meeting of the Victorian Branch on 22 October 1996. His lecture was entitled 'What every statistician should know about robust and nonparametric regression'.

The Knibbs Lecture for 1996 was given by Professor Chip Heathcote at a meeting of the Canberra Branch in November. Professor Heathcote's lecture was on 'Mortality Surfaces and Health Processes'.

The H.O. Lancaster Lecture was given at the Annual General Meeting of the New South Wales Branch on 19 March 1996 by Professor David Griffiths. The title of his lecture was 'H.G. Wells and the Future of Statistical Education'.

The inaugural E.K. Foreman Lecture was given on 9 July 1996 at SISC-96 by Mr Bill McLennan AM. The title of his lecture was 'A History of the Development and Application of Statistical Methods in the Australian Bureau of Statistics (ABS)'.

10. Sections

Currents Sections and their 1996 chairs are:

Survey and Management Statistics	Ms Susan Linacre
Statistical Computing	Dr Glenn Stone
Statistics in the Medical Sciences	Dr John Carlin
Statistics in the Biological Sciences	Associate Professor Kaye Basford
Statistical Education	Ms Pamela Shaw
Industrial Statistics	Dr Geoff Robinson and Ms Teresa Dickinson
Young Statisticians	Mr Phil Dransfield

Other Sectional and Branch activities have been detailed in the Society's Newsletter.

For the Society

Assoc. Professor Helen Macgillivray, President

Dr Neville Weber, Secretary

April 1997

AUSTRALASIAN CONFERENCES

CONFERENCE SUMMARY

2nd Australian Conference on Industrial Statistics, 28-30 September 1997, near Melbourne.
Information: Teresa Dickinson tel. (03) 9545 8013; email Teresa.Dickinson@cmis.CSIRO.au and Geoff Robinson tel. (03) 9545 8014; email Geoff.Robinson@cmis.CSIRO.au. For both, fax (03) 9545 8080; postal address CSIRO, Mathematical and Information Sciences, Private Bag 10, Clayton 3169. (Further details in Newsletter 78 and 79.)

Workshop for Australia's Young Statisticians - Ways '97,
1-3 October 1997, University of Melbourne, Parkville, Victoria.
Information: Michael Kunklet, c/o Insureware Pty Ltd, 22 Wellington St, St Kilda VIC 3182; tel (03) 9526 6951, fax (03) 9529 2663, email inswrerd@world.net, http://www.hutch.com.aw/~inswrems/ways97.htm.
(Further details in Young Statisticians Section of Newsletter 78 and 79.)

Epidemiologic Study Design and Multivariate Data Analysis, 3-7 November 1997, Hobart.
Information: Ms Wendy Spencer, Executive Officer, Menzies Centre, GPO Box 252-23, Hobart, Tasmania, 7001;
fax: (03) 6226 7704; email: W.Spencer@menzies.utas.edu.au. (Further details in Newsletter 78.)

APORS'97, Fourth Conference of the Association of Asian-Pacific Operational Research Societies within IFORS,
30 November - 4 December 1997, World Congress Centre, Melbourne, Victoria
Information: APORS97, c\o PR Conference Consultants Pty Ltd, PO Box 326, BALWYN VIC 3103, or Pam Richards, e-mail: APORS97@sci.monash.edu.au; tel. (03) 9816 9111; fax: (03) 9816 9287. (Further details in Newsletters 76 and 77.)

Australasian Biometrics Conference, 30 November to 4 December 1997, Adelaide.
Information: Ari Verbyla, Department of Statistics, University of Adelaide, Adelaide SA 5005; tel. (08) 8303-3218; fax. (08) 8303-3696; e-mail biom97@maths.adelaide.edu.au. (Further details in Newsletter 77, 78, 79 and this issue.)

10th Australian Joint Conference on Artificial Intelligence,
2-4 December 1997, Perth, Western Australia.
Information: ai97@cs.curtin.edu.au or (David Dowe) dld@cs.monash.edu.au
http://www.cs.curtin.edu.au/~ai97/

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; Facsimile, (07) 3864 2310 (Further details in Newsletter 78.)

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

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

Biometrics 97
Meeting of the Australasian Region of the International Biometric Society

November 30 - 4 December 1997
Wirrina Cove Paradise Resort
Second Valley, South Australia

http://www.adl.dms.csiro.au/biometrics97

Flyer

This has been posted to members of the Australasian region of IBS. A copy will also be in the August issue of the Newsletter of the Statistical Society of Australia.

Apart from a small error that has been corrected on the flyer, there is another correction. Patty Solomon should be listed under the Mixed Models and Extensions major theme and NOT Medical Statistics. This error was made by the convenor in a fit of forgetfulness (old age creeping in?). Apologies to Patty.

Invited Speakers

The confirmed invited speakers for the conference are (in alphabetical order) Murray Aitkin, Steve Buckland, Ann Cowling, Arthur Gilmour, Gary Glonek, Mike Kenward, Brian McArdle, Byron Morgan, Hugh Possingham, Patty Solomon, Bill Venables.

The major themes are animal abundance, mixed models and extensions, and computing in biometry.

Call for papers

Contributed papers are invited in any area of Biometry and especially in line with the major themes. Papers will be presented by lecture or poster format. The former will be allocated 25 minutes duration including question time. Abstracts of one A4 page are to be prepared using the template which is available from the web site or the organisers.

Abstracts must be received by October 1, 1997. NOTE THE CHANGE OF DATE from previous emails.

Registration

The registration includes all morning and afternoon teas and lunches, the welcoming BBQ and the conference dinner. The cost is $300 before October 31 and $350 after that date. Student registration is $180 while single day registration is $150. A form is available on the web site and with the flyer or from the organisers.

Accommodation

Single or twin share accommodation including breakfast will be $100 per room. Triple share including breakfast is $125 per room. A form for booking accommodation is available on the web site and with the flyer and should be returned by November 17, 1997.

Travel Information

Transport from Adelaide to Wirrina: a form to advise us of your travel details is available on the web site and the flyer and should be returned by November 21, 1997.

Ansett: quote MC06382 to receive 45% discount on flights within Australia to Adelaide. For delegates who travel with Ansett, The Golden Wing Lounge will be available on arrival in Adelaide.

More Information

Further information is available electronically as well as through the conference organisers.

The Biometrics 97 Conference Web site has URL

http://www.adl.dms.csiro.au/biometrics97

Conference contact:

email: biom97@maths.adelaide.edu.au

email list: To subscribe to the biometrics97 email list email to

majordomo@maths.adelaide.edu.au

with the following one line message in the BODY of the email (NOT in the subject)

subscribe biometrics97

Up to date information will be sent to you automatically as the details of the conference develop.

mail: Biometrics 97
Department of Statistics
The University of Adelaide
South Australia 5005

phone: (08) 8303 3218

fax: (08) 8303 3696

Ari Verbyla
Convenor

OVERSEAS CONFERENCES

IMS and Bernoulli Society European Regional Meeting: Mathematical Statistics and its Applications to Biosciences, first week in September 1997, Rostok, Germany.
Information: F. Liese, W.R. Richter, University of Rostok, Germany.

Spruce Conference - Statistical Aspects of Health and the Environment (SPRUCE IV), 8-12 September 1997, the ITC, Enschede, The Netherlands.
The fourth SPRUCE international conference, on the theme Statistical Aspects of Health and the Environment will take place at the ITC, Enschede, The Netherlands, from 8 to 12 September 1997. The aim is to bring together statisticians working in the field of health and the environment, to discuss recent progress in this field and to investigate opportunities for future needs. It will cover crucial areas as Toxicology; Epidemiology; Waste Disposal/Remediation; Monitoring, Management and Agriculture and the Food Chain. An international group of speakers will present the state-of-the-art in these areas. Amongst those who have already agreed to speak are: Luisa Bernardinelli, Johan Bouma, Sir David Cox, Sarah Darby, Paul Elliott, Tony Gatrell, Neils Keiding, Suresh Moolgavkar, Andreas Papritz, Sylvia Richardson, Wouter Slob, Richard Smith and Jim Zidek. The proceedings will be published by J. Wiley as a volume of the *Statistics for the Environment* series.
For further information, registration and request for the second circular including a call for abstracts please contact A. Stein, ITC, PO Box 6, 7500 AA Enschede, The Netherlands. email: spruce@itc.nl.

International Meeting on Multidimensional Data Analysis NGUS'97, 10-12 September 1997, Bilbao, Spain.
Information: Kormele Fernandez-Aguirre, Avda, Lehendokari Aguirre, 83 (48015) Bilbao, Spain,; fax +34 4 479 7554; email ngus@bs.ehu.es; internet http://www.et.bs.ehu.es/ngus97.html.

Symposium '97: New directions in Surveys and Censuses, 5-7 November 1997, Statistics Canada, Ottawa, Ontario, Canada.
Information: Jack Gambino, Statistics Canada, 16th floor RH Coats Building, Ottawa, Ontario, Canada, K1A-0T6; fax +1 (613) 951-3100; internet email sym-pos97@statcan.ca.

International Conference on Health Policy Research: Methodologic Issues in Health Services and Outcomes Research, 5-7 December 1997, Washington, DC, USA.
Information: American Statistical Association, 1997 Health Policy Research Conference, 1429 Duke Street, Alexandria, VA 22314-3415, USA; email healthpolicy@monmouth.com;
website http://www.monmouth.com/~healthpolicy.

International Conference on Statistical Inference, Combinatorics and Related Areas, 18-21 December, Banaras Hindu University, Varanasi, India.
Information: Satya Mishra, Department of Mathematics and Statistics, University of South Alabama, Mobile Alabama 36688, email mishra@mathstat.usouthal.edu; fax +1 (334 460-7969 or B.N. Pandey, Department of Statistics, Banaras Hindu University, Varanasi, UP 221005, India; email bnpandey@banaras.ernet.in; or B.D. Sharma, Department of Mathematics, Xavier University of Louisiana, New Orleans, LA 70125, email bsharma@mailxula.edu, fax +1 504-482-1561, website http://www.math-stat.usouthal.edu/bhu97conf.

Complexity and Iinformation - Theoretical Approaches to Biology, 5-9 January 1998, Maui, Hawaii.
This will be held as part of the 3rd Pacific Symposium on BioComputing (PSB-3, 1998).
Information: Dr David Dowe, Department of Computer Science, Monash University, Clayton VIC 3168; dld@cs.monash.edu.au; fax (03) 9905-5146; http://www.cs.monash.edu.au/~dld/PSB-3/PSB-3.Info.CFPs.html

International Biometric Society (ENAR) Spring Meeting,
27 March - 1 April 1998, Pittsburgh, Pennsylvania, USA.
Information: ENAR Conference Manager, 11250 Roger Bacon Dr., Suite 8, Reston, VA 22090 USA; fax +1 (703) 435-4390.

International Conference in Reliability and Survival Analysis, 21-24 May 1998, Northern Illinois University, De Kalb, Illinois, USA.
Information: Nader Ebrahimi, Division of Statistics, Northern Illinois University, DeKalb, IL 60115, USA; fax +1 (815) 753 6776; email icrsa@math.niu.edu; web site http://www.math.niu.edu/StatDiv/icrsa98/.

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.eedu; fax +1 (504) 388-8344; website http://stat.uibk.ac.at/iwsm.

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 compstst-98@bristol.ac.uk;
website http://www.stats.bris.ac.uk/COMPSTAT/

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