

John Nelder visits Hamilton



John Nelder entertains GGLM Workshop participants on Harold Henderson's piano. (See last page for story and more photographs.)

NZSA looks for Editors

The NZSA is looking for editors for the *New Zealand Statistician* and this *Newsletter*. Hugh Morgan and Murray Jorgensen wish to step down from their present positions as editors of these two publications, respectively. It may also be useful to engage the services of several associate editors.

So if you are interested in playing a large or small role in getting these two publications out please contact Hugh [Department of Statistics, Massey University, Private Bag 11-222, Palmerston North] Phone: (06) 350-4265 Fax: (06) 350-5611 Email: H.Morton@massey.ac.nz], Murray or Harold Henderson [see page 3].

This is an interesting and rewarding time to become involved with either of these two publications. Of particular interest is the likely movement of the NZSA into some forms of electronic publishing and the development of the relationship with the Statistical Society of Australia.

Dennis Trewin returns to Australia



Dennis Trewin will return to the Australian Bureau of Statistics at the beginning of August, after three years as Deputy Government Statistician in Statistics New Zealand.

Dennis has played a major leadership role in the restructuring of Statistics New Zealand and in the bringing together of its analytical staff into the National and Regional Statistics Group. The group spans macroeconomic statistics, business statistics, social statistics, labour market statistics, household economics, demography, population analysis, and a methodological group. In addition to that, Dennis has played a major role in all the corporate policies that have been involved in changes in Statistics New Zealand.

Dennis Trewin has also been a critical force in managing many of the major external relationships of Statistics New Zealand, including its new advisory committees in the economics and social areas, and specialist groups which have been set up to help advance particular statistics such as agriculture.

Dennis has become well known in the New Zealand statistical community in the short time that he has been here, and his ability to entice overseas guests to the southern hemisphere appears to be without parallel.

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President's Column



Science Funding Update

The Government's Priority Statement for the Public Good Science Fund (PGSF) was released on 28 June 1995. Cabinet has endorsed the Science Priorities Review Panel (SPiR) final recommendations with some modifications including some reprieve for horticultural and related sciences.

We have continued to emphasize the theme that government science funding should recognize the public benefit which flows from generic work in mathematical and information sciences.

Full copies of the NZSA submission (including a 7 page appendix with graphical analysis) are available from me. Here I extract comments from the submission and *add brief commentary in italics*.

Key Science Areas

The NZ Statistical Association endorses the submission by the Mathematical & Information Sciences Council of NZ on establishing **Quantitative Methodologies for Generic Modelling** as a Key Science Area (KSA). *Further consideration is to be given to KSAs. We will continue involvement and have confidence of being consulted on this.*

Government's 2010 goal

The NZ Statistical Association endorses the Royal Society's strong case for an urgent and large injection of funds into research and development from Government to smoothly achieve the Government target of total science funding being the average OECD level of 0.8% GDP by 2010. *The addition of a higher (\$400 million) option in the final report is significant in this context.*

We also took some trouble to unravel the 'quantitative arguments' used to justify the final allocations to "output classes".

Delphi survey

We have concerns about the Delphi survey (*used by SPiR to gauge expert opinion*) and its results. For the Delphi survey a "consultative group of approximately 100" was compiled (SPiR March 95, p. 52) and "in the event 60 of the group participated in the survey". No comment is made on the possible biases introduced with the high (40%) non response rate. No data are presented on the variability of the responses. The report should state that in suggesting relative weights for economic goals the range of the responses was 20-80; for environmental it was 10-60 and for social it was 0-55. We only read, SPiR p. 18 "There was a surprisingly strong consensus in the panel and the Delphi group in support of the split 50:30:20 for Economic: Environmental: Social Goals". This statement does not follow from the data.

Applying these weights (50:30:20) in the model would lead to extraordinarily extreme shifts in funding levels, particularly in the environmental and social outputs, that

the panel has not recommended. The oracle of Apollo at Delphi gave answers held by ancient Greeks to be of great authority but also noted for their ambiguity and obscurity. Given the outcome of the Delphi survey the dictionary definition, namely, obscure or ambiguous seems more appropriate than its technical meaning.

Quantitative Methods

The NZ Statistical Association encourages (*but note second thoughts below*) MoRST to develop the quantitative methods for establishing priorities and funding in the PGSF, to monitor international progress on methodology development and to explore alternative approaches. For example, AgResearch has suggested using an investment model approach to science priority setting.

SPiR used the quantitative methodology results "as input only" and was "as much influenced by the discussion and thinking lying behind the assessment of the key factors as by the formula result of aggregating the factor scores" (SPiR, p15).

A lot of time and effort was put into the so called quantitative methodology. It seems rather a waste as the conclusions and actions are grossly in conflict with the absolute funding levels of the model. Changes in funding (Table SPiR p. 76 with its 5 point scale of --, -, 0, +, ++) are easily derived from present levels of funding with the premise of increased importance on environmental and social goals and relative decline in agricultural outputs. The *inadequate* quantitative method was *fortunately* ameliorated by subjective views and combined judgement of the panel.

There is a danger that SPiR is dressing up its report with quantitative methods, giving scientific credence to its methods, when in fact major modifications and undocumented changes are made for the SPiR recommendations. This is pseudo science. In reality the model being used is extremely simple. The attempt at a more detailed model falls short of giving sensible funding levels and we read (SPiR p. 65) "It would be misleading to attach too much significance to the absolute scores. The exercise is principally about relativities and broad directions of change."

As John Tukey, leading proponent of good use of data has written "Far better an approximate answer to the right question, which is often vague, than an exact answer to the wrong question, which can always be made precise."

Three of the 172 submissions were on the quantitative methods used. MoRST is keen to improve the methods (but did not have time to address this in the final report.) Please contact Malcolm Menzies (malcolm@morst.govt.nz) or me if you would like to have some input.

Our submission then, after making a push for better recognition of Mathematical & Information Sciences, concentrated on the quantitative methods used by government to defend decisions on priorities for spending in one of its budget areas. This is not of course the same issue as appropriateness of the resulting decision. On reflection I am in some doubt as to whether the Association wishes to lend support to the notion that formulae used to put gloss on political decisions can ever be made scientific. What do you think?

Harold Henderson [HendersonH@AgResearch.cri.nz]

Editorial



This issue seems to have turned into a bit of a social and professional awareness one for statisticians on two fronts. First of all on page 4 Sharleen Forbes has the Soapbox to tell us all about her concerns regarding the Seventh form mathematics curriculum and to continue the theme I am re-printing a letter by NZMS President Marston Conder on the

same topic. I know from discussions with my colleagues that there is a lot of concern and anxiety about the way mathematics is being handled at all levels in our educational system at the moment. I would very much like to hear from readers who are concerned about this, whether as parents, students, teachers or employers. There does seem to be a general perception that there is some sort of crisis in mathematics education at the present time, and that present proposals for change seem likely only to make matters worse. But don't let me tell you what the problem is: write me a letter or an article!

Attracting New Statisticians

For a couple of years I have been running an electronic distribution list for statistics job vacancies in New Zealand. Lately I have noticed a trend that is either encouraging or depressing according to your point of view: there seem to be more vacancies and they seem to be getting harder to

fill. Students are not seeking to enter the profession in large numbers, and those who do choose statistics are not always the most able students. I want to make a few suggestions to help based on my experience at Waikato, but which I am sure can be echoed at other institutions. I think that the reason that we miss a lot of the good students is that statistical careers have a low profile at the time that these students make their course decisions. Here at Waikato more visible options are Computer Science and Mathematical Physics/Applied Maths, which have many graduate students working on projects and theses. I believe that we would attract better students to statistics if CRIs and other employers had more summer jobs to offer, funded more joint research with universities, and visited the campuses more often to talk about opportunities in statistics. Usually, however, it's a last minute panic when some key person leaves.

A Web site for NZSA?

Here are some World Wide Web pages of special interest to statisticians:

<http://lib.stat.cmu.edu/> (StatLib)

<http://www2.ncsu.edu/ncsu/pams/stat/info/jse/homepage.html> (Journal of Stat. Education)

<http://www.dms.csiro.au/sisc/> (1996 Sydney Statistical Conference)

<http://icarus.math.mcmaster.ca/peter/liaison/SSC95.html> (SSC/IMS 1995 Montreal meeting)

<http://www.rsnz.govt.nz/> (Royal Society of N. Z.)

If you have access to a web browser like Mosaic or Netscape have a look at some of these and see if you think that this would be a useful way for NZSA to disseminate information. The Departments of Statistics at Massey and Auckland, like many overseas statistics departments, are setting up their own web pages. This could be a good way to get hold of that Research Report that you need! I am keen to see us set up a central web server that could be linked to other sites like StatLib, Massey and Auckland.

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NZSA President

Harold Henderson is interested in your views on Association activities. He hasn't a Hot Line but here's how to get hold of him:

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Statistician on a Soapbox

This issue's guest orator is Sharleen Forbes of Statistics New Zealand, someone with a long-standing professional interest in mathematical and statistical education.

Mathematics in the Final Year of Schooling

All of us, as members of NZSA, have more than a passing interest in mathematics and statistics education. All our careers have been shaped by us being successful participants in current mathematics education systems. There is probably little debate that mathematics provided the foundation upon which we developed our statistical interests. Indeed, for some the divergence into statistics happened after almost all formal mathematics learning was completed.

Today however, statistics is a separate strand (running in parallel with a number of other strands) of the national mathematics curriculum which spans from new entrants to the seventh form. I support this move but it does avoid the question - what is the relationship between the learning of statistics and the learning of mathematics? Statistics is a powerful problem solving tool and in some cases elementary data analysis should precede, and would assist, the learning of mathematical concepts (in, for example, Calculus). Some statistical techniques (such as principal components and other multivariate analyses) however require a level of mathematical competency. Educators of course carefully consider these inter-relationships when designing and adapting curricula. Or do they?

Let's look at the specific example of Bursary mathematics. In the past (pre-1986) there were two mathematics papers for Bursary: Pure and Applied Mathematics. In 1986 statistics asserted itself over the physics-like components of Applied Mathematics and two new papers were born: Mathematics with Statistics and Mathematics with Calculus. It was clearly intended that students not do both as the papers contained considerable overlap but this turned out not to be the case. Correlation analyses of both Scholarship and Bursary results indicate that the highest (positive) correlations between individual student's marks is between Maths with Stats and Maths with Calculus, then Maths with Calculus and Physics, then Physics and Chemistry. While, in general, there are positive correlations between subjects (indicating a tendency for students who do

'well' on one subject to do 'well' on others) the coefficients for pairs of subjects other than those previously mentioned are quite small. Unless we understand well the relationships and interdependencies between subjects can we be assured that we are fairly awarding credit for learned work.

An interesting human rights issue also arises - the maths/science combinations have traditionally been dominated by males whereas girls tend to have more 'mixed' combinations of subjects. But there is overlap in content between Maths with Stats, Maths with Calculus and Physics. One could conjecture that MALES (by doing these combinations) HAVE BEEN AWARDED BETTER MARKS than FEMALES (doing other combinations) AND HAVE LEARNED LESS SKILLS AND SUBJECT CONTENT in doing so. Should we encourage more females to do the maths/science combinations or should we consider which students are actually developing the range of skills to succeed in rapidly changing work environments and award them accordingly? I support the latter as I believe that good practitioners of statistics need a wide range of skills, including good oral and written communication skills.

Is this where we are heading? Sadly, no. The New Zealand Qualifications Authority and the Ministry of Education is resolving the 'overlap' problem between Mathematics with Statistics and Mathematics with Calculus but not for this reason. Instead, it is the development of UNIT STANDARDS which has precipitated the concern. It became apparent as these were being developed that we would be 'short' of content for two mathematics papers if the total content was divided into discrete units. There are two easy solutions:

- have one Bursary mathematics paper
- develop more content.

Only the latter was considered and our NZSA subcommittee (of which I am a member) was requested at high-speed to develop extra statistical content for the seventh form mathematics curriculum. A clear example of the assessment procedure driving the curriculum content. As a committee however we were in the "Catch-22" position of

- do nothing and someone else will do it worse
- do nothing and statistics will 'miss out'
- do something and you are seen to endorse something you may not believe in.

The committee did decide to 'do something' and the ADDENDUM to the curriculum has since been gazetted to schools. The areas suggested by the committee were beginning work on experimental design, time series and investigating relationships

Dennis Trewin *Continued from page 1*

To add to all this, he is also a remarkably enjoyable person to work with, and has been a very encouraging leader to many in the organisation.

Dennis's contribution will be able to be seen in the improved publications of Statistics New Zealand and the increased linkage between the nature of our statistical measures and the user community. It will also be seen in many of the improved processes in management in the organisation.

Dennis's position is being advertised at the moment. It would also be fair to say that someone who brings the range of abilities of Dennis is almost unreplaceable.

While in New Zealand Dennis has been a critical force in developing further the relationships between Australia and New Zealand in the statistical sphere, and there is no doubt that his return to the Australian Bureau of Statistics will lead to a further reinforcement of perhaps one of the most effective professional and institutional trans-Tasman relationships that exist.

Both Statistics New Zealand and the statistical community in New Zealand wish Dennis and his wife, Annette, well in their return to Canberra. It has really been a marvellous experience, personally and professionally, to have shared three years with such an international leader in the statistics profession and in official statistics, who is also the quintessential gentleman.

L W Cook, Government Statistician

"Soapbox" *continues*

between variables. These are areas, I believe, that could be useful in schools but I have grave concerns about the haste of the curriculum development, its development independent of the development of appropriate pedagogy, and WHETHER THERE WAS A NEED FOR INCREASED MATHEMATICS CONTENT IN THE SEVENTH FORM AT ALL.

Do we really need two mathematics papers? Indeed, would our secondary school students be better served for the variety of their futures if subject specialisation was delayed and they all learned a range of skills (extending the integrated curriculum concept of primary schools right through to the end of the secondary school). Secondary school teachers would probably hate the idea as they are all themselves subject specialists. While acknowledging that many of these teachers are currently doing amazing work in extremely difficult environments at the end of the day it is the students whose needs must be paramount. It is the students who are the clients of education, not the educators.

One of our difficulties as an association is that we are increasingly being called on to participate in educational activities which either amount to, or usurp, educational policy making but we have no collective views. Members' individual views on even just the 'simple' issue of the amount of mathematics and statistics that should be in compulsory schooling range from my 'integrated' approach, to the removal of all statistics, and to a dramatic increase in statistical content. *The association urgently needs to develop and promulgate its own educational policies.*

The NZ Mathematics Society and the Qualifications Framework

Staying with educational matters, I thought that our members would be interested in the NZMS response to the draft unit standards and the Framework itself. -Ed.

Professor Derek Holton
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DUNEDIN

Dear Derek

I am writing on behalf of the Council of the N.Z. Mathematical Society in response to your request for comments on the draft Unit Standards for Levels 1 to 4 Mathematics in the N.Z. curriculum.

The consensus among professional mathematicians in N.Z. appears to be that the Mathematics Advisory Group has achieved near to the best possible result of a very difficult exercise, and I would be pleased if you could pass on these sentiments to the other members of the group.

In particular, it is generally felt that the group has arrived at a model which reflects Mathematics in the N.Z. curriculum quite well, and which fit the technical requirements of the N.Z.Q.A.'s unit standards framework.

Having said that, I have to report there are major concerns about the unit standards framework itself. These concerns have been expressed by a broad range of people, from dyed-in-the-wool academics to young and active mathematics teachers as well as experts in mathematics education.

To quote from a relatively moderate source:

"To be frank I have a complete antipathy to the whole process and believe it is largely if not entirely misguided and a waste of time. Normally I am pretty wishy-washy about things like this, but there comes a time when you have to draw a line and say that's it.

I am happy with the idea of rethinking the syllabus and the teaching process as a whole, but where I disagree is in the premise that the way to do this is to analyse in minute detail the subject matter being taught. I shudder to think what music or social studies would look like if subjected to the same dissection process.

“The drive towards breaking down the education process into small and quantifiable steps is convenient from an accountability and measurement point of view, but it makes little sense from a teaching standpoint. The structure is much too cumbersome to be practical. As far as I can make out the effect of imposing this structure will be to make an already difficult task — the teaching of a relatively subtle and technical subject such as mathematics — almost impossible by making the teacher spend acres of time book-keeping and keeping track of infinitesimal steps in the progress of the students rather than doing examples and teaching theory and discussing applications.

“If I can draw an analogy with sport, this seems to me like requiring Laurie Mains to have a checklist of say 1000 items (sprint speed, stamina, ball catching, anticipation, etc.) for each of the All Black squad members and spend the training sessions focusing on and recording progress on each item for each player. Obviously no sane coach could run a system like that. The process of instruction and advice is much more personal and subjective than the unit standards format.

“In fact it crosses my mind that this approach is much better suited to impersonal machine learning situations than to real life teaching. To reduce teaching to a mechanical process would be terrible, yet there is already evidence of this in the jargon-ridden and prolix description of the standards and their performance criteria. Employers will need extra specialist staff to advise them on what qualifications mean on prospective employee applications. It seems to me a recipe for disaster, and I am amazed that the process has got this far without someone blowing a very loud whistle.”

And from another:

“I object to the attempt to place mathematics into a bunch of pigeon-holes. Even more I object to the necessity of contrived examples to make mathematics appear useful (as in the cray-fishing example on page 15). In a language, one accepts the need to learn some vocabulary before one can make simple sentences, followed by more complicated constructions and so on; and everyone can appreciate a well written story in English literature, without requiring justification of its significance. So why

should it be necessary in mathematics to accompany every new topic with an immediate application? Is it not possible to develop some particular skills in a continuous fashion and discuss the important applications at the appropriate time? And is there no appreciation of mathematics for its own intrinsic beauty?”

The main concerns of our members may be summarised as follows:

(a) Fragmentation is likely to cause damage to the way in which students learn the subject, especially the important elements of concept, process and context in mathematics.

(b) The assessment procedures of the unit standards framework will create a lot of extra work for teachers, further undermining an already unsatisfactory situation in the teaching of mathematics.

(c) Weaknesses in the moderation system bring consistency of assessment into question: how can the word “standards” be used in view of these?

(d) A change from “norm-based” to “achievement-based” assessment is sensible, but such a major change ought to be handled carefully and without haste if we are to avoid the sort of lasting damage caused by major changes in the past (like the introduction of the “new maths” in the 1970’s).

I would be grateful if you could convey these concerns at your next meeting of the Mathematics Advisory Group, and on behalf of the Society I would like to thank you very much for representing us in this difficult and challenging but important exercise.

With best wishes

Yours Sincerely

Prof. Marston Conder

NZMS President

Although the above letter emanates from the NZMS I feel that I should report my personal impression of a reverent hush of admiration and support that spread throughout an NZSA Executive Meeting where it was discussed. Perhaps even in (post-)modern New Zealand there comes a time when it should be said that the Emperor has no clothes! -Editor

Aitken Conference Update (28 August - 1 September)

On Wednesday afternoon, 30 August a new session for students has been arranged. At this meeting various employers will be present to speak to students about careers in Statistics. It is intended that Statistics New Zealand, New Zealand Aluminium Smelters, Agriculture and Fisheries among other groups will be represented.

If Aitken Conference participants are remaining in Dunedin on the evening of Friday 1 September and Saturday 2 September they are welcome to join the Reunion for Graduates of Mathematics and Statistics from the University of Otago. The fee for the Reunion Reception on the Friday evening is \$21 and for the Reunion Dinner on the Saturday evening is \$42. Tickets for these functions can be obtained from the Conference Organiser by posting a cheque for the appropriate amount.

John Harraway writes:

About 200 registrations to date have been received. 108 papers have been received so far:

18 Actuarial Science, 10 Algebra, 6 Analysis, 9 Applied Mathematics, 2 General Mathematics, 5 Mathematics Education, 13 Statistics - Theory, 15 Statistics - Applications, 5 Sampling, 3 Environmental Statistics, 3 Statistical Ecology, 4 Matrix methods in Statistics, 15 invited addresses.

The invited addresses are being presented by: Elmer Rees, Peter Fenton, Garry Tee, Anne Penfold Street, Herbert David, Hans Schneider, Walter Ledermann, Len Cook, Geoffrey McLauchlan, Ernie Tuck, Shayle Searle, Yahuda Kahane (an Actuary of international repute), Alistair Watson, George Styran.

Countries represented at the Conference:

New Zealand, Australia, South Africa, Israel, Malaysia, Canada, U.S.A., Argentina, United Kingdom, Portugal, Finland, Belgium, Denmark, Norway.

The Programme is not finalised but has the following structure:

MONDAY 28 AUGUST (all day)

Two Plenary Sessions

Three parallel sessions of contributed papers on Matrix Methods in Statistics, Mathematics Education, Actuarial Topics.

TUESDAY 29 AUGUST (all day)

Two Plenary Sessions

Four parallel sessions of contributed papers on Actuarial Topics, Ecological and Environmental Statistics, two parallel colloquium streams.

WEDNESDAY 30 AUGUST (mainly morning)

One Plenary Session

Four parallel session of contributed papers, two streams on **statistics** and two for the colloquium.

Excursions take place in the afternoon.

Also in the afternoon there are **Employer Presentations for students of Statistics** (and other mathematics students who may choose to attend). Various New Zealand Companies and Government Departments are financing this afternoon of presentations.

THURSDAY 31 AUGUST (all day)

One Plenary address

Five parallel streams of contributed papers and invited addresses on Actuarial Topics, two on Colloquium Topics and two on **Statistics**.

FRIDAY 1 SEPTEMBER (all day)

One Plenary address

Three parallel streams of contributed papers on Actuarial Topics, **Statistics**, Numerical Analysis.

The Colloquium Welcome is on Monday evening. The **Statistical Association Welcome is on Tuesday evening. The Conference Dinner is on Wednesday Evening.** The Welcome for Actuaries is on Thursday evening. The Graduate Reunion Reception is on Friday evening. The Graduate Reunion Dinner is on Saturday evening.

Registration forms were in the April 1995 *Newsletter*. For more information email: casm@maths.otago.ac.nz or phone +64 3 479 7774 or Fax +64 3 479 8427.

Code of Conduct

The code is being revised along the lines discussed at last year's AGM. It will be made more aspirational in tone. The code will be a topic for discussion, and hopefully final adoption at the Dunedin AGM in August.

We have had considerable interest in our draft from the Statistical Society of Canada and they are now debating whether they should go down a similar route. (Their comments are included in this *Newsletter*, beginning on page 8.) The Australians are moving towards offering formal accreditation based on qualifications and experience, along the lines of the RSS's C.Stat qualification.

Garry Dickinson

Canadian Comments on our Draft Code of Conduct

The draft code appeared in the May 1994 issue of the Newsletter (Number 35). Liaison, the newsletter of the Statistical Society of Canada (SSC) invited a number of Canadian statisticians with an interest in professional issues to comment on the draft, and sought a response to these comments from Garry Dickinson, convenor of the NZSA working party on professional standards, and Harold Henderson as NZSA President. Peter Macdonald of McMaster University, an Associate Editor of Liaison and a past President of SSC organised and edited the comments and we are grateful to him for these efforts and to Liaison editor Charles Patrick for permission to reprint. Editor

The editors of *Liaison* recognised that many SSC members have an interest in professional issues and we invited a number of them to review the NZSA draft code of conduct and its applicability to statisticians in Canada. In this issue of *Liaison*, we are pleased to publish contributions from Stephen Fienberg, Fernando Camacho, David Binder, Richard Shillington, Danielle Morin, Judy-Anne Chapman, Jerry Lawless and Jim Tomkins. We thank them for the work they have done for us.

In editing the contributions, I have attempted to standardise some of the terminology. I have called statistics a "profession" in the wider sense of an occupation based on an established set of skills or body of knowledge, even though statistics is not a legally recognised or regulated profession such as engineering or medicine. I have used "accreditation" to mean establishing the credentials of an educational or training institution, so that its graduates are automatically accepted into a given profession, as distinct from "certification" where, by examination or otherwise, an individual is certified as qualified to engage in a given profession. These two terms are often used interchangeably but the distinction is useful and it makes a big difference whether we get involved with evaluating institutions or individuals.

In the text, statistical associations are designated by their usual acronyms: ASA (American Statistical Association), ISI (International Statistical Institute), NZSA (New Zealand Statistical Association), RSS (Royal Statistical Society), and SSC (Statistical Society of Canada).

Peter D. M. Macdonald

Stephen E. Fienberg, Carnegie Mellon University

"I don't think that professional organisations like the ASA or SSC should be adjudicating the ethical dimensions of their members' activities."

Professional statistical associations have an obligation to develop and promulgate ethical standards and codes of conduct. On this point there is close to a consensus. The nature of those standards and the content and purposes of the codes, however, are often matters of dispute. Long debates accompanied the development of the ASA's Ethical Guidelines for Statistical Practice. Even today, many years after the adoption of the Guidelines, practising statisticians regularly take issue with and violate specific items in it.

For example, the ASA injunction to make "data available for analysis by other responsible parties with appropriate safeguards for privacy concerns" is honoured more often in the breach than in the observance.

The draft New Zealand Code has many desirable features and the NZSA should be applauded for this undertaking. Having said this, I found myself surprised at much of its language and the seeming absence in it of the notion of statistical principles. One might replace "statistics," "statisticians," and "statistical" with words that refer to the activities and practitioners of another field, and little would need to be changed. #6 is a notable exception to this statement. There is the need in any such code, I believe, to begin with those activities that are special to our field and to ask what principles concerning these activities are essential. Then we can turn to a codification of standards and practices that are consistent with these principles. In this sense the role of ethical standards and guidelines is exhortatory. They should be, at least in part, aspirational and represent goals towards which we as statisticians should strive. They need to be applicable across the spectrum of statistical practice: in government, in industry, and in the universities. A related point as it pertains to the draft code is the inclusion of many things that are truly non-statistical. My own preference is to avoid such matters wherever possible.

I turn now to the issue of what is to be done with a code of conduct once it is adopted. This was an issue in the recent ASA debate over certification of statisticians, where the proposal was to revoke certification of those who violated the ethical standards. I don't think that professional organisations like the ASA or SSC should be adjudicating the ethical dimensions of their members' activities. This is a recipe for disaster. What will inevitably follow is internal dissension and unending professional disputes. Do we really want to regulate our membership in this fashion? Thus I wonder how the drafters of the NZSA code envision dealing with complaints brought by one member against another for whom he or she works, involving vague and undefined professional standards. #18 suggests the willingness of our colleagues down under to enter the fray in such circumstances, where I for one would be reluctant to do so, even when the standards are well articulated and generally agreed upon.

Finally, I turn to an important element linked to ethical standards and codes of conduct, education. As statisticians, we have a special obligation to teach our students the importance of ethical standards and to demonstrate for them how such standards are linked to statistical principles. Statisticians play special and pivotal roles in most real-world investigations as guardians of the quality, relevance, and confidentiality of data, and the justifiability of inferences drawn from statistical analyses. Few, if any, textbooks treat these topics as ethical ones or make clear the statistician's responsibilities and obligations. We need to appreciate that to adopt values implies that we have considered and rejected the alternatives. Those of us in universities need to introduce these topics in our classrooms and in the training of those who will follow us.

Perhaps it is time for the SSC to exert some leadership in this vital area. We have much to learn and to understand.

AGM Section (liftout)

President's Report on Activities of the New Zealand Statistical Association

For the 1994/95 year

I am pleased to highlight the activities of the New Zealand Statistical Association for the 1994/95 year, the 48th year of the Association's operation. The constitutional aims and objectives of the Association are *the encouragement of theoretical and applied statistics in New Zealand*. In 1992 the Association agreed on a more comprehensive set of vision and mission statements including the short description:

The mission of the NZSA is to lead New Zealand to value and make intelligent use of statistical thinking and good statistical practice.

I am reasonably satisfied that our year's activities have contributed well to furthering the mission.

NZSA Membership

The NZ Statistical Association, founded in 1948, is New Zealand's only association for professional statisticians. Our Association membership at June 1995 within New Zealand comprised 273 ordinary members, 42 student members, 13 Corporate members, 13 libraries, 2 life members, 2 agencies and 3 exchange members. Overseas membership comprised 37 ordinary members, 7 students, 5 libraries, 15 agencies and 15 exchange members. Last year these categories all summed to 398 compared with 427 this year. This shows a pleasing consolidation in our membership.

Executive committee and subcommittees

The Executive have held regular meetings by Telecom AudioConference. We thank AgResearch for their support. Our executive has representatives in six centres again this year showing that we are truly a national organization. There have been no face-to-face meetings of the whole executive between conferences. This may have impeded progress on some issues.

The report this year includes reports from portfolio convenors, and is published in the *Newsletter* (instead of in the *Statistician*) before the AGM. Those of you coming to the AGM might like to bring this AGM lift-out section along.

**Annual General Meeting
Thursday August 31, 4pm
A C Aitken Conference, Dunedin**

SERVICES TO MEMBERS

The main services to members are still via the journal, newsletter and annual conference.

NZ Statistician and Newsletter

The production of these two excellent series is so well organized as to be almost invisible to the Executive. Our two editors, **Hugh Morton**, *NZ Statistician*, and **Murray Jorgensen**, *NZSA Newsletter* quietly get on with the business of producing these publications on time, within budget and to a high standard. That the *Newsletter* is such a lively vehicle for communication within our profession is also due to the enthusiastic participation of local contributors. Thank you all.

Hugh and Murray wish to step down from their present positions as editors of these two publications, respectively. It may also be useful to engage the services of several associate editors. This is an interesting and rewarding time to become involved with either of these two publications. Of particular interest is the likely movement of the NZSA into some forms of electronic publishing and the development of the relationship with the Statistical Society of Australia.

So if you are interested in playing a large or small role in getting these two publications out please contact Hugh [Department of Statistics, Massey University, Private Bag 11-222, Palmerston North Phone: (06) 350-4265 Fax: (06) 350-5611 Email: H.Morton@massey.ac.nz], Murray or Harold [see page 3].

Conference

A feature of the New Zealand statistical year is the annual conference, normally held in mid-year. In addition to invited and contributed papers on a wide range of topics, there are often special sessions with panel discussion on topics of current concern to the profession.

The 1994 Joint Annual Conference of the NZSA and ORSNZ at Massey University, August 25-26, was very successful. There were 160 participants with 73 papers being presented in 23 sessions. There were a further 22 registrations for the Statistics Education Session. There were keynote addresses by Bill Henderson and Thomas Ryan. Many thanks go to the organising team for a superbly organised and catered conference.



*The Massey 1994 Conference organising committee:
(Front row) Julie Falkner, Jeffrey Hunter (chair), John Giffin, (back row) Charles Lawoko, S Ganesalingam, Mark Bebbington, Douglas Timmer, Helen Sneddon, Paula McMillan and Chin Diew Lai (not shown)*

Young Statisticians

The Association has become more active in assisting young statisticians this year. The Association continues to partially support a student from each university to attend the annual conference. Ray Hoare, Hoare Research Software, has generously sponsored the *SPSS prize for statistics* and contributed, along with the NZSA and universities, toward student travel grants.

Marianne Vignaux reports: The team (Marianne Vignaux, Katrina Sharples and Ray Littler) looking at services for our Young Statistician members has initiated two new projects this year. We are organising an Employment Workshop for Young Statisticians to be held in conjunction with the A.C. Aitken Centenary Conference in Dunedin on Wednesday 30 August 1995. This workshop aims to provide information to young statisticians about the types of employment available to statisticians, and to provide an opportunity for young statisticians from all over New Zealand to meet and discuss their work. There will be talks from employers and statisticians working in a variety of fields, describing the types of qualifications needed to work in these areas, and the type of work these statisticians do.

We have arranged for some sponsorship to provide financial assistance for travel and accommodation for graduate and final year honours students, so that as many as possible of our audience can come. Thanks to Statistics New Zealand, New Zealand Aluminium Smelters, and the Waikato Centre for Applied Statistics for sponsorship.

But for those who can't come to the workshop, we are also compiling a more comprehensive list of organisations in New Zealand who employ people with statistical skills. We hope that this information will show our young members the wide variety of industries where their skills could be applied, and give them a range of ideas of what they could do after they leave university, or where they could enquire about employment prospects. This list will be available in time for the Employment Workshop.

Marianne Vignaux

PUBLIC AFFAIRS

These portfolios represent important ways in which the Association grapples with the social responsibilities indicated in the mission.

Survey Appraisals and Public Questions (SAPQC)

Stephen Haslett reports: The Survey Appraisals and Public Questions Committee (SAPQC) is a standing committee of the New Zealand Statistical Association (Inc). The objectives of the SAPQC are:

"To raise the standard of practice and level of public understanding of statistics in New Zealand by:

1. conducting independent appraisals of the methodology and other technical aspects of surveys, including sample surveys and opinion polls, in relation to their statistical validity, and to the needs of the users of the survey results;

2. conducting examination of statements made in the public domain and of significant public interest, that have statistical content, or whose validity depends on statistical considerations."

Appraisals

The report for the New Zealand Council of Christian Social Services on the methodology for setting of benefit levels has been completed and made public. Of the SAPQC reports since 1992 this has received the most public interest. The central finding was that the data available for setting benefit levels is currently inadequate.

An appraisal of the Business and Economic Research (BERL) report on the accuracy of the cost and benefits of an amendment to the Marine Transport Act requiring safety inspections for foreign owned yachts is currently under preparation.

Summary

The SAPQC continues to provide appraisals on request, but has not taken a particularly proactive role in commenting on issues of public concern. There are however such issues on which NZSA makes comment and, following a recent Executive decision, it is intended to channel at least some of these through the SAPQC.

Stephen Haslett

Professional Standards

Garry Dickinson reports: The code is being revised along the lines discussed at last year's AGM. It will be made more aspirational in tone. The code will be a topic for discussion, and hopefully final adoption at the Dunedin AGM in August.

We have had considerable interest in our draft from the Statistical Society of Canada and they are now debating whether they should go down a similar route. (Their comments are included in this *Newsletter*, beginning on page 8.) The Australians are moving towards offering formal accreditation based on qualifications and experience, along the lines of the RSS's C.Stat qualification.

Garry Dickinson

Links with other Bodies



Some of those gathered at the launch of MISCNZ

The Association is an affiliated organisation of the International Statistical Institute and maintains close relations with a number of statistical societies around the world. It is also a member body of the Royal Society of New Zealand (RSNZ) and part of the Mathematical and Information Sciences Council of New Zealand (MISCNZ).

Mathematical and Information Sciences Council and RSNZ

The Mathematical and Information Sciences Council of New Zealand (MISCNZ) was launched on 29 September 1994. It comprises representatives of the NZSA, NZMS, ORSNZ, NZAMT, and the Informatics group of the NZ Computer Society. It is convened by **Graeme Wake**, the representative of the Mathematical and Information Sciences (MIS) Electoral College on the Royal Society Board. Our representatives are **Jeff Hunter** and **Jean Thompson**. This council is a strong, effective and broadly-based lobby group for the mathematical and information sciences. This is an exciting and necessary development.

Careers Brochure and Posters

Auckland University's Liz Godfrey has produced a *Careers in the Mathematical Sciences* brochure and 8 posters. The A4 3-fold brochure has columns on each of the 8 people featured in the posters on the inside and brief description of Mathematical and Information Sciences and contacts on the outside.

Liz produced 6000 copies of the brochure and 1000 copies of each of the 8 A4 posters. A set has been sent to each of the 400 high schools, and a second set is available for the asking. A good number have also been sent to each university and polytechnic.

Liz Godfrey is Liaison Officer for Women in the Physical Sciences and Engineering at the University of Auckland. Liz also organised the *Skills and Opportunities in Science* posters which you may have seen. The NZ Mathematical Society and NZSA have co-operated on this and we thank Liz Godfrey and the maths and stats departments of the universities for supporting this project.

EDUCATION



Mike Camden, Caroline Smith and Sharleen Forbes of the NZSA Education Committee and speakers in the Education session at the 1994 NZSA/ORSNZ Conference.

The Education Committee aims to improve the quality of statistical education for New Zealand students. It participates in advisory groups related to curriculum matters and helps organise conferences and courses for the benefit of those teaching statistics at all levels. However the focus of its recent work has been on the important secondary scene. The Education committee has had a busy year. Mike Camden reports:

The Nutshell

In a nutshell our efforts this year have been to promote this idea further:

"Statistics is necessary, useful and fun to learn, in ways which are different from the ways in which maths is necessary, useful and fun. It is not just a somewhat peculiar strand of maths".

We have had success in making this view more accepted. Our efforts have centred largely on curriculum matters and conferences.

Curriculum Matters

NZQA's Maths Unit Standards



An irreverent view of the curriculum development process

We are represented on NZQA's Maths Advisory Group by Peter Fleming (resigned July 4) and Mike Camden, and on occasion by Caroline Smith. In September, the MAG approved the draft Unit Standards for consultation and trial. We delivered extensive comments on the draft Statistics Standards from Marianne Vignaux, Philippa Graham and ourselves early this year. The responses from the trial schools this year indicated that major simplification was needed, and a major re-write happened in May and June. Luckily for Statistics, Caroline was on the writing team. On July 4 MAG approved these revised Unit Standards for the next 18 months, in a very subdued atmosphere.

We have worked successfully to ensure that the Unit Standards are largely focused on Statistics as a process of asking and answering the right questions, doing investigations and assessing reports, and we have worked successfully(?) to ensure that the words are technically correct.

Addendum to Level 8 of Maths in the NZ Curriculum (Form 7)

We made four submissions to this creation, two formal and two informal. The outcome is reasonable except that the Sample Assessment Activities and Sample Development Band Activities are rather light.

In November the President wrote to the Minister about this in a letter which conveys much of our philosophy about education and its importance.

We received extensive comments on the draft from John Maindonald and Philippa Graham.

Bursary Maths Subjects

The future of this is under discussion still: whether we have one or two subjects, what their content is, and the arrangement of the content between two subjects.

The Adjustment to Bursary Maths With Statistics Prescription

We were requested by the QA at short notice to help them make minor adjustments to this prescription to bring it into line with the Curriculum. I think we succeeded in focusing it more on "processes".

Further Tertiary Statistics Unit Standards

We are working with QA in setting up a team of writers for these. We have stated our current view that a minimal number of units be created to mainly cope with the courses which are now nationally available through Polytechnics. We hope to consult with Polytechnic and University Statistics Departments on these Units. Our current views on this matter were conveyed in a letter from the President.

Conferences

We are working on statistical education content for both the NZ Association of Maths Teachers conference in Auckland in August, and the A.C. Aitken conference, by discussions with organisers and making presentations ourselves.

We would like to see a NZSA Conference with a theme of "Research Into Statistical Education", at some near date. This is a field which has grown recently. New Zealanders working in the field have tended to meet in far off overseas cities!

Publications

We are interested in working with publishers of student texts to relate to the new statistical learning environment.

We have taken an active interest in NZSA's publications of the year.

The Committee

The Committee currently consists of 10 Wellington based people from a wide range of employment and experience backgrounds. We met seven times: October, November, February, March, April, June and August.

Current members are:

Paul Ackerley, Pip Arnold, Mike Camden, Irene Cassidy, Brian Corbitt, Peter Fleming, Sharleen Forbes, Diane Leggett, Caroline Smith, Jean Thompson.

During the year Megan Clark and Jo Higgins left, and Diane joined. We worked very closely with President Harold Henderson and Secretary John Waller. We have benefited from the expertise in submissions of John Maindonald, Marianne Vignaux, Philippa Graham and John Waller.

We currently lack a University person and need to rectify this soon.

I thank the rest of the Committee, other members who have corresponded with us and the Executive, for their support and expertise. Special thanks for their contributions over their years on the committee go to Megan Clark and Jo Higgins.

Our purpose is still: "to improve the quality of statistical education in New Zealand", and we remain open to input from all members.

Mike Camden

Science Fairs

Vince Galvin has been co-ordinating NZSA sponsorship and judging of science fairs. For many New Zealanders, and particularly the younger generation, science fairs are the only way they ever hear about the NZSA. When we present an efficient and helpful presence it is very constructive for our future. Vince thanks the team of judges up and down the country and comments that he gets very grateful letters back from organisers emphasising that they do register our interest and concern. Let Vince know of ideas for further sponsorship.

SPECIAL PROJECTS

The association has pursued a number of special projects in recent years.

Suffrage Centennial Year Project

The focus for 1993, our Suffrage Centennial Year, was on a series of initiatives culminating in a book, *Women with Maths: Making a Difference*, celebrating the role of women in statistics, and an associated display. The display continues

Continued on page 15.

The New Zealand Statistical Association (Inc)

PO Box 1731
Wellington

The NZ Statistical Association, founded in 1948, is New Zealand's only association for professional statisticians. The association has about 400 individual members and is growing strongly. Many of its members are employed by universities, government departments, or research institutes, with growing participation by senior students, who are offered free membership for their first year.

The constitutional aims and objectives of the association are *the encouragement of theoretical and applied statistics in New Zealand*. In 1992 the association agreed on a more comprehensive set of vision and mission statements including the short description:

The mission of the NZSA is to lead New Zealand to value and make intelligent use of statistical thinking and good statistical practice.

(The complete vision and mission statement, which serves to guide the executive and membership in planning and decision-making, is available from the secretary.)

Services to Members

Members receive the official journal *The New Zealand Statistician* twice yearly and are kept up to date on statistical happenings within New Zealand and interesting overseas developments with regular newsletters. A feature of the New Zealand statistical year is the annual three-day conference, normally held in mid-year. In addition to invited and contributed papers on a wide range of topics, there are often special sessions with panel discussion on topics of current concern to the profession.



Ken Jury at the Flexi poster paper with David Wheeler. Martin Upsdell is demonstrating on the PC.



Professional Standards

At the 1994 annual conference the association adopted a 'Code of Conduct' as a guide and agreed that a revised code be considered at the 1995 AGM. Particular attention was paid to the positions adopted by kindred organisations in Australia, UK, and USA on the question of formal accreditation of statisticians. No immediate action will be taken on a formal accreditation scheme but work is continuing on the preparation of guidelines of good practice.

Links with other Bodies

The association is an affiliated organisation of the International Statistical Institute and maintains close relations with a number of statistical societies around the world. It is also a member body of the Royal Society of New Zealand and part of the Mathematical Sciences Council of New Zealand.

Cooperation with related societies sometimes leads to joint conferences such as the International Biometric Conference (IBC) held in Hamilton at the end of 1992.



On the terrace at the IBC

Survey Appraisals and Public Questions

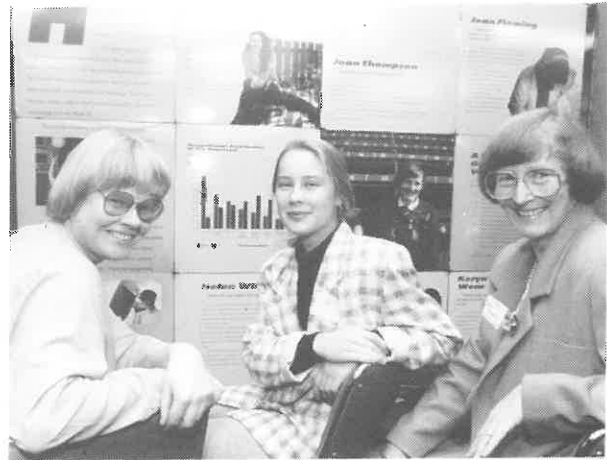
The Survey Appraisals and Public Questions Committee aims to raise the standard of statistical practice and the level of public understanding of statistics in New Zealand by conducting independent appraisals of sample surveys, opinion polls and other statistical statements in relation to the statistical validity of their results. It is regularly called upon to comment on contentious polls and surveys.

Education

The Education Committee aims to improve the quality of statistical education for New Zealand students. It participates in advisory groups related to curriculum matters and helps organise conferences and courses for the benefit of those teaching statistics at all levels. With the support of some of our corporate members, the association sponsors prizes for statistical excellence at each of the regional Science Fairs.

Special Projects

The association has pursued a number of special projects in recent years. The focus for 1993, our Suffrage Centennial Year, was on a series of initiatives culminating in a book celebrating the role of women in statistics, and an associated display.



Helen Stott, convenor women's suffrage project, Megan Hurnard, seventh former at Wellington Girls College, and Jean Thompson, then President NZSA, at the launch of the NZSA display 'Opportunities - Living Numbers' in April 1993.

Officers of the New Zealand Statistical Association

President **Harold Henderson**
 Statistics, AgResearch Ruakura

Secretary **John Waller**
 Statistics, AgResearch Ruakura

Treasurer **Gary Dunnet**
 Statistics New Zealand, Christchurch

Newsletter Editor **Murray Jorgensen**
 Dept. of Mathematics and Statistics
 University of Waikato

NZ Statistician Editor **Hugh Morton**
 Dept. of Statistics, Massey University

Committee

Peter Danaher
 Dept. of Marketing, University of Auckland

Vince Galvin
 Statistics New Zealand, Wellington

Siege Haslett, Jeff Hunter, Charles Lawoko
 Dept. of Statistics, Massey University

Ray Littler
 Statistics, University of Waikato

Donal Krouse
 Industrial Research Ltd, Lower Hut

Katrina Sharples
 Dept. of Preventive & Social Medicine
 University of Otago Medical School

Debra Taylor
 Statistics New Zealand, Wellington

Jean Thompson
 JAD Associates, Wellington

Marianne Vignaux
 Marine Research, Wellington



NZSA Executive meeting at IBC

Application to join NZSA

I wish to join the New Zealand Statistical Association

Name:.....

Address:.....

Phone:.....

Fax:.....

Email:.....

Occupation:.....

Employer:.....

Areas of Interest: eg, Experimental Design, Time Series, Stochastic Processes, Official Statistics, etc

Please circle membership category and enclose cheque made out to NZ Statistical Association.

Ordinary members NZ \$30, Overseas \$35

Student and Retired \$15, Overseas \$17.50

(NOTE: First year free for students)

Signature:.....

Date:.....

Post to PO Box 1731 Wellington

For more information contact:

John Waller

Statistics

AgResearch Ruakura

Private Bag 3123

Hamilton

Phone (07) 838 5145 Fax (07) 838 5012

Email WallerJ@AgResearch.cri.nz

to have good impact in schools in the Waikato and Wellington. The book is a collection of 40 short stories about New Zealand women who find their numeracy skills leading them to exciting lives. The text was compiled with the help of a grant from the Suffrage Centennial Trust. The commercial part of the extensive design and editing was funded from grants from the late Professor J T Campbell. Further funding for the production has come from a grant from the Ministerial Committee, Science and Technology Promotion Advisory Council. The balance has been underwritten by NZSA, in the hope of recouping it through sales. Particular thanks go to Jean Thompson and Helen Stott for completing this project.

Helen Stott reports: On June 29 the books *Women with Maths: Making a Difference* and *History of Women Through Statistics* were launched. The launch was greeted with some relief by those of us involved in the past three years, but with enthusiasm by those seeing the books for the first time. Watch out for the 'Newspapers in Education' features which are likely to be using the information from the books.

History of Women through Statistics fills a real gap in our knowledge of how women have been counted historically. A copy has been sent to every high school. It is available from Statistics New Zealand.

Helen Stott

History

A tribute to the late Professor James T Campbell, OBE, the founding president of the Association appeared in the September 1994 Newsletter. Material from interviews with Professor Campbell on the early formation of the Association is being edited for our archives with a view to publishing selected parts in our journal or newsletter.

Publications

John Waller reports: The 1994/95 year was an interesting year for Publications. Sales of our 'traditional' publications were steady, though not particularly strong. We appear to be selling about 20% of our remaining stock of publications each year, and there is a strong demand still for the booklet *Understanding Surveys*. We hold good stocks of both this and *School Projects in Mathematics and Statistics*, but the stocks of our other publications are much lower and fresh print runs are not envisaged at this stage.

In April a new book *Women with Maths: Making a Difference*, edited by Helen Stott and Jean Thompson, was launched. From a print run of 1000, apart from those to be provided free to contributors etc, we have sold 150 to date. The publicity to schools of this book was very good and many have purchased copies. This has allowed us to advertise our other publications to the schools, and sales have occurred as a result of this.

We are also selling Peter Johnstone's book *How to Plan an Experiment*. This 80 page booklet, which we retail for \$25, is an excellent publication and is thoroughly recommended. Although it is primarily intended for researchers, teachers dealing with students carrying out experiments could well find this a helpful aid. We are optimistic of good sales.

John Waller 15

STRATEGIC PLANS

Budget

The executive has put some effort into more clearly identifying the inescapable costs of running the Association. These include journal and newsletter publication, RS levy, liability insurance for those representing the Association, and minimal office expenses. We have adopted a policy of covering the inescapable costs with subscription income and funding other highly desirable initiatives from existing reserves and sponsorship. The exact nature of the highly desirable list should be discussed at the AGM. It is highly desirable that a clear annual budget be established.

I recommend to you the treasurer's report by **Gary Dunnet**, which will be available and presented at the AGM. The unaudited financial statements are in this AGM lift-out.

Australian links

Your committee has been exploring closer statistical relations with Australia. Our representatives on a joint working party are Hugh Morton, Garry Dickinson, Gary Dunnet and myself.

Potential important initiatives relate to professional standards, conferences and journals. Other portfolio interests - Education, Survey Appraisals and Public Questions Committee and the Newsletter - and matters such as strategic planning for the discipline are probably best handled at national level but will benefit from closer relations and exchange of information.

Our standards for statistics and statisticians subcommittee is already talking to the Australians to harmonize actions in this area, as Garry Dickinson reports.

Reciprocal members' rates now apply at conferences. We will increase liaison between the organisations and at the annual conference of each society an observer from the other will be invited to attend executive meetings and the AGM.

I think it is worth exploring the possibility of cooperating on an Australia & New Zealand Journal of Statistics (ANZJS).

Acknowledgments

It has been my privilege and pleasure to have served the Association as its President during 1993-95. I thank all members of the executive committee, convenors and members of subcommittees and the editors of our two publications for their work and help during the year. Particular thanks go to John Waller as an efficient secretary, Ray Littler for his planning expertise as minute secretary and to Gary Dunnet as Treasurer. Much of the work of the Association is done by individual members with no official title. Thanks to you all.

Harold Henderson
President, NZSA.
10 July 1995

Code of Conduct *Continued from page 8.*

Fernando Camacho, Ontario Hydro
Chair, SSC Committee on Professional Accreditation
"Established professions take great pride in their code of ethics."

A code of conduct arises in response to the pressures of the society which implicitly demand more and better services from a given profession.

In extreme cases when the practice of the profession significantly impacts the public welfare, society, through some branch of government, may impose such a code by introducing legislation that controls and regulates the practice of the profession. There will be inspectors checking the work of the professionals to ensure the quality of their work and there will be penalties if such quality is not met.

In less extreme cases, those practising a given profession may decide to organise themselves into some sort of association and establish a self-regulatory professional body which through a "code of ethics" sets the standards of behaviour expected from its members. The professional body may also set up procedures to "discipline" members who fail to behave according to the set of standards. Some may even define what constitute a "misconduct." In contrast to the previous situation, this is done internally within the association and the means of policing of members or definition of penalties may not always be clear.

Yet in other cases, the code of conduct may arise as something internal to the members of a profession who may want to raise the "honour" of the profession by requesting its members to behave according to a set of standards. This differs from the previous two in the sense that enforcement is as a code of honour: there is no need for policing, members are proud to have such a code and behave according to it, and discipline, if any, is limited to cancellation of membership in the professional organisation.

It is my understanding that the NZSA code of conduct falls within this last scenario. If adopted, members will be compelled to "honour" the code. It is through this sense of "honour" that NZSA expects to assure the ability and integrity of its members.

The establishment of a code of conduct is a sign of maturity of a profession whose members understand their obligation to society and take responsibility for their actions. Established professions take great pride in their code of ethics and the fact that they have established procedures to discipline members who fail to maintain the established standards. For example, in the discussions the National Scientific Society of Canada (NSSC) has maintained with the Canadian Council of Professional Engineers (CCPE) regarding the definition of the practice of engineering, the engineers have confronted scientists with the fact that engineers are obliged by their profession to take responsibility for their work, that they have a code of ethics setting standards for their profession, that they have ways to discipline the misconduct of their members, and that scientists seem to have nothing comparable. Some engineers have implied that scientists, if allowed to engage

in engineering activities, will practice with lower standards than engineers!

Comparing NZSA's code of conduct with the codes of ethics of the different professional engineering associations of Canada one sees that all codes address the public interest, duties to employers, duties to the profession and issues of competence and integrity. The draft NZSA code shows more concern with respect for human rights while the engineers' codes emphasise the public welfare. All address issues of confidentiality, diligence, competence, conflict of interest, and promotion of the profession. Some of the engineering codes of ethics go far beyond the NZSA's Code of Conduct. For example, in the code of ethics of the Association of Professional Engineers of Ontario (Section 91 of Regulation 534/84, proclaimed in force 1st September 1984) Article 8 reads "A practitioner shall maintain the honour and integrity of his profession and without fear of favour expose before the proper tribunals unprofessional, dishonest or unethical conduct by any other practitioner." This certainly implies a great deal of dogmatism and jealousy for the integrity of the profession. The NZSA's Code of Conduct does not go outside the boundaries established by the code of ethics of professional associations in Canada. As to the specifics of the code, one may want to expand on the issues of public welfare and rewrite the code more as a set of guidelines, to reduce its dogmatic undertone.

One still has to ask if such a code may restrict the practice of the statistics. I don't think so in so far as one already expects a certain level of honesty and integrity. A code spells out guidelines that can be very useful in the event of conflicts.

Can the code of conduct ensure the ability and integrity of the members? Of course, the answer is no, just as the medical associations or the engineering professional associations cannot ensure the ability or integrity of their members. However, the reputation of the profession, and therefore of its members, may be raised by the fact that its members are expected to behave according to a code of conduct in which ability and integrity are paramount. Only time will tell if this is achieved. It will depend, among other things, on the way society perceives the contributions of the profession, the way the members adhere to the code of conduct, the perceived benefits of belonging to the profession association, and the way the association deals with issues of misconduct.

As one becomes more informed on the way the legally-recognised established professions operate here in Canada, one comes to recognise the importance of the responsibility these professions have toward society. In all regulated professions this responsibility is a key element behind the regulations. As our profession matures and statistics becomes more relevant and of more consequence to the public welfare, there will be a need to take public responsibility and there will be pressures to set some sort of guidelines that at least raise the likelihood of high standards. Right now, with other professions such as engineering expanding their definition of practice, we may be forced into such a situation just to defend and promote our own profession.

David Binder, Statistics Canada

"It serves as a reminder of good conduct-nothing more."

I have not tried to compare this particular code with those put out by other organisations such as the RSS or the ISI, but I must ask myself why such codes are necessary. Is it that we statisticians are going through an identity crisis? Or are we trying to avoid bad statistical practices through the adoption of such codes? Will the adoption of such a code really address either of these issues? We can all name professions that have codes and standards and we can find many examples of bad practice within those professions. Therefore, I believe that codes of conduct are useful only in raising the awareness of practising professionals as to their rights and responsibilities. It serves as a reminder of good conduct-nothing more. If we think about what good professional conduct entails, most of us know how to act. Having a code ensures that we give it the thought that such behaviour deserves.

I have been watching the deliberations of the ASA on the issue of certification of statisticians for a couple of years now. The proponents of certification believe that it is necessary to help employers establish whether the statisticians they hire have the appropriate knowledge and experience. This is an honourable goal. The problem is that the proposed certification process did not ensure that this goal would be met, and, in spite of all assurances to the contrary, members who did not meet the certification standards felt like second-class citizens in the organisation. This became a very emotional issue within the ASA, and has now been dropped from their agenda. I am sure the topic will resurface, as there seems to be a group of statisticians in the U.S.A. that feels strongly that certification of statisticians is needed, especially to counterbalance the certification of other professionals such as Quality Engineers. This seems to be strongly motivated by the fact that many employers would like to see some "credentials" before hiring statisticians.

In Canada, I sense there is a similar issue in some jurisdictions where the lawmakers may tend to limit certain professional activities to persons with some formal accreditation. We, as an association, must be vigilant to some of these restrictions. However, a code of conduct would not solve such problems for us. Certification, on the other hand, is wrought with problems, as evidenced by the American experience.

I do object to some of the wording in the New Zealand proposal. For example, "Membership in the association is an assurance of ability and integrity." This is, in my view, a very controversial statement. Is membership in the NZSA open to anyone who is interested in statistics? If so, there can be no "assurance of ability" associated with membership. If not, does this mean that the NZSA will verify the "ability and integrity" of each of its members? Does this imply a test of some sort? This is beginning to sound like the ASA certification proposal, which, as I mentioned above, is wrought with problems.

There are other issues in this code which I believe need some clarification. One example is the concept (#2) of "freely given informed consent." I believe that this implies

that the respondent should be told the purpose of the enquiry and how it will be used. I agree with this, but the present wording is not explicit enough. "Freely given" would not apply when the statistical enquiry is mandatory under the law.

What is confidential information? How are group interests protected? Disclosure of confidential information is not permitted under the code, but it is not clear exactly what is meant by disclosure, or what information is confidential. For example, should data be released which do not disclose someone's income exactly but allow it to be inferred to within 1%? Similarly, if we state that we know some fact about an individual with 99% probability, but we could be wrong 1% of the time, is this disclosure? It is not even clear how such probabilities can be assessed. These are all difficult issues.

I was surprised by the requirement (#7) to "avoid any action which will adversely affect the good standing of statistics and statisticians." This is a restriction on freedom to criticise the profession. I find such limitations on freedom of expression distasteful.

In summary, though, the code of conduct seems to be well crafted. My main concern is that its purpose be stated as only a reminder to our professionals as to what is ethical behaviour. It should not be considered as an assurance of quality of the advice given by those who adhere to the code.

~~~~~  
**Richard Shillington, Consultant**  
**Box 1086, Manotick, Ontario K4M 1A9**

*"We have the right to expect intellectual honesty."*

I have reviewed the proposed code of conduct prepared by the NZSA. They would like to have membership in their association confer some "assurance of ability and integrity."

To assure ability, it is my feeling that some method of certifying statisticians or accrediting their educational institutions would be of value although it is a substantial exercise. I favour certification, based on examinations, as do the actuaries; this would recognise the contributions to statistics made by individuals who are not primarily mathematicians. Obviously, the SSC is too small to run such examinations, but I think such an exercise could be credible if managed jointly with organisations like the ASA and RSS.

It seems to me that to assure integrity requires a code of ethics, a procedure for review, complaint and appeal, and a system of censure. This is feasible for SSC but it should not be seen as a trivial task.

Describing ethical conduct for statisticians is not easy. Given our training, there is a tendency to demand statistical methods which are "objective." I am very skeptical of claims of objectivity. The choice of statistical methods is subjective. As well, choosing methods which are "objective and reliable" will not, in itself, ensure that the analysis will provide relevant information. It is quite possible for an "objective and reliable" analysis to be totally misleading.

The NZSA draft code states (#6) that "Views or opinions based on general knowledge or belief should be clearly distinguished from views or opinions derived from the statistical analysis being reported." This sounds like a fine

ideal but I wonder how much honest introspection we can expect of statisticians.

The proposed code indicates (#14) that “any professional opinion which they are asked to give shall be objective and reliable.” Techniques can be objective in the sense that they are mathematically precise, but the choice of technique, I believe, is rarely objective.

The distinctions I am drawing here may be biased by the type of research I have been conducting over the last ten years, in the fields of tax policy and social policy. The ethical issues which I see would not be addressed by this code. The problem most often comes when technique and presentation are chosen to distort the story. When there are honest differences in opinion about how “best” to summarise a database, how do you determine that an analysis that was “cooked”? Not an easy task.

I believe that we should expect statisticians to be “fair”, in some sense unbiased. Put another way, we have the right to expect intellectual honesty. That is, statistical methods are chosen and results are presented in ways which are conclusion-neutral. They are not chosen in a fashion to support one conclusion over another except as supported by the data.

In summary, some form of certification would be of value, despite the general reluctance to take this on. Ethical standards are easy to advance as an ideal; in specific cases and in their enforcement they are very difficult. Thus, I wonder how much real value is to be had here. Perhaps the promotion of a Code of Conduct will help to address our public relations problem exemplified by the well-known expressions “Lies, damn lies, and statistics” or “You can prove anything with statistics.” The issue is worthy of more thought.

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**Danielle Morin, Concordia University
President, Statistical Society of Montreal**

“The public at large has no simple way of verifying the results of statistical analyses.”

Should there be a set of rules or regulations governing the activities of statisticians? Is there a need for it? Should we elaborate point by point what a statistician should or should not do? There are certainly arguments for and against this initiative.

A major argument against such a Code is that we all know the rules and we all try to do our job of statistician the best we can. But is this argument valid? It is certainly not very convincing for non-statisticians who use statistical services frequently.

One of the most important concerns is that the public at large has no simple way of verifying the results of statistical analyses. It is not a factory that is manufacturing a certain type of bolts with a well-defined set of characteristics. Those industries can check the quality of the product by taking a sample of components and testing the product. Not only is the end product tested, but the quality of the equipment used to measure or test the output is also assessed. So far there are no mechanisms to do that with statistical analysis.

This is perhaps the reason we hear different opinions

about statistics. Most of us have certainly heard the expression that statisticians are liars, and that they can cheat and make the numbers say whatever they want. The credibility and the legitimacy of our profession are sometimes at stake.

There are many problems that we need to address for our profession to survive. There is the confidentiality aspect. Are the results of all questionnaires received really confidential? We all noticed that sometimes, we receive questionnaires that should preserve our anonymity on one hand, but are in fact numbered or coded. How do you explain that? We are told that only the summary statistics will be published, and the individual answers are not important. If we really mean confidentiality and anonymity, questionnaires should not be coded, even if it facilitates identifying non-respondents.

How is a required sample collected? When we claim that we have a random sample, is it really the case? How do we treat the data? Can we play with the data? When is an observation considered an outlier and dropped from the sample? Is it to improve our model? Or for other reasons?

If a medical doctor is found guilty of some error or negligence, he may lose the right to practice medicine. The same is true for lawyers. But for statisticians, what can we say? If one falsifies data or uses an invalid analysis, does this person lose the right to practice or apply statistics professionally? Should they become ineligible to receive research grants?

Perhaps we should define who should be called a statistician and the kind of background required. Should there be a statistical association that supervises the behaviour of its members? Should it investigate complaints from clients and from other statisticians? No such mechanism exists at present. I believe that it could be very valuable for us to look seriously into the situation.

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**Judy-Anne Chapman, Women’s College Hospital  
Public Relations Officer, SSC**

*“The ability to set precise boundaries or define competence for particular tasks is elusive.”*

Members of the SSC should be aware of what other national statistical organisations are considering. The issue of professional conduct is akin to that of certification and accreditation in that it is an attempt to define guiding principles for the practice of the field.

The major difficulty with the statistical field is that, unlike the legally recognised professions of medicine, engineering, law and actuarial science there is frequently no definitive basis, bottom line or endpoint for validating the correctness of statistical advice or analysis. Statistical practice apart from legally-regulated areas like the pharmaceutical industry has no precise mandatory steps that must be followed. Statisticians are more usually working in the less well-defined area of inference, and various subject-matter areas have different standards and expectations for rigour and precision. What might constitute a very imprecise assessment in one area may be quite satisfactory in another due to cost constraints, the availability of good data, or the general development of

subject-matter knowledge. As well, practising statisticians have a variety of academic qualifications augmented with personal study or years of experience. The ability to set precise boundaries or define competence for particular tasks is elusive.

The mission of the SSC is been to facilitate communication between individuals working with statistics and to communicate about statistics to the greatest extent possible with those who are not in the field. The SSC emphasis in the last couple of years has been to ascertain our members' work activities and interests, to disseminate this information to our members, to other professionals, and, where possible, to the public. I feel that it is beyond the current or foreseeable future scope for the SSC to take on monitoring roles such as those proposed by the NZSA, where membership may be associated with an assurance of ability and integrity or where societal advice, support, or action might be considered for individual work situations (##17 and 18 of the NZSA draft). This inability for formal SSC response does not preclude assistance that an individual member might obtain from other members.

The SSC has an ad hoc committee on Professional Accreditation led by Fernando Camacho, who recently worked to protect the interests of statisticians and scientists from the effects of proposed changes to the Canadian Engineering Acts. It is useful and important to monitor the progress that other national statistical organisations make in developing codes of conduct and accreditation programs. However, I think we are not very close to defining, assessing, or enforcing statistical guidelines in Canada.

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**Jerry Lawless, University of Waterloo
Past President, SSC**

"Merely stating rules of conduct will have little impact."

Statistics is both a profession and a discipline. The SSC exists to serve both aspects and it seems important that it and statistical societies elsewhere maintain a statement on professional conduct. The NZSA draft statement and the Royal Statistical Society statement which it resembles are well constructed and, aside from fairly minor points, I find little to disagree with or to suggest by way of improvement. However, such statements raise a broader issue that deserves discussion: what should be done with such statements and, in particular, should the SSC and other societies set up or become self-regulatory bodies with regard to the rules of professional conduct? Merely stating rules of conduct will have little impact and at the least, guidelines for their dissemination and use are needed. I note that many points in the NZSA rules are necessarily vague: see for example ##10 and 11. In order for them to have any bite, a process is needed for the adjudication of cases in which someone is alleged to have contravened the rules. It may be the case currently that no one cares much about this; the lack of response of NZSA members to the draft statement is ominous.

This of course takes us into the realm of professional recognition, accreditation, and the like. Many statisticians in Canada may feel that the SSC should not be involved in these activities. However, if the NZSA is not involved,

then what basis is there for the third sentence under "Constitutional Authority" in their draft, which says "Membership of the association is an assurance of ability and integrity"? Indeed, in the NZSA draft, the public might well question the inclusion of a process for protecting statisticians or NZSA members (#18) when there is no process suggested for protecting the public.

The SSC probably should adopt a code of conduct even if it does not consider issues of professional regulation or certification. However, it seems much more useful to consider them together, if for no other reason but to be clear as to the purpose of any stated code.

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**Jim Tomkins, University of Regina, President, SSC**

*"Members who violate the proposed Code would have to be disciplined or expelled."*

Since the motivation for the NZSA to introduce a Code of Conduct at this time is not apparent from the document, there is a risk that a reviewer's comments may be somewhat out of context. However, I offer the following thoughts on the proposed Code.

It seems to me that the gist of the proposal would apply to any professional. Indeed, it is only #6 of the document that overtly refers to the practice of statistics in a specific way; the remaining sections would make sense with "statistics" replaced by "the law" or "accountancy." I find no fault with what is written; the various duties, responsibilities and admonitions in the proposed Code seem to me to define quite well what society should-and, I submit, does-expect of a professional in any field. This begs the question why a statistical society should bother codifying the behaviour of its members. On the other hand, we live in an age where it has become important to have written policy statements (such as employment-equity policies, sexual harassment policies, pension fund investment policies) for the protection of both individuals and institutions. Perhaps it is inevitable that policy statements should become common amongst the professions too.

Implementation of the proposed Code of Conduct would, I submit, change the nature of the NZSA. Traditionally, a learned society admits to membership anyone who subscribes to the goals of the organisation and pays the required dues. Yet the preamble of the NZSA document assures the ability and integrity of every NZSA member. This suggests to me that, if the proposal were implemented, the NZSA would have to get involved in monitoring and policing its members. Members who violate the proposed Code would have to be disciplined or expelled, if the integrity of the Code were to be maintained. The likely way to achieve this is through a process of certification, a subject which has generated much debate in North America in recent years.

I suspect that some members of the NZSA are not actively involved in the application of statistics to "real" situations; probabilists, some mathematical statisticians and retired members come immediately to mind. How would the proposed Code affect them? Would they have to be certified?

My assertion that the implementation of the Code would change the NZSA is also supported by the #17 and 18 of the proposal. These state that members whose professional activities place them in invidious circumstances would be able to solicit advice on their situations from the NZSA. I believe that this would put a new onus on the NZSA to ensure that knowledgeable advisors are available, including lawyers. If a NZSA member were to follow the advice of the NZSA in such a situation, and if the ultimate outcome of the case were not favourable to the member, might not the member wish to consider taking legal action against the NZSA? This is a whole new ball-game for learned societies.

In summary, then, I see nothing objectionable in the NZSA document insofar as it talks about how a professional statistician should behave. I nonetheless see the nature of the NZSA changing fundamentally—perhaps in ways not intended—should the proposed Code of Conduct be put into practice.

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The preceding comments on the NZSA Code of Conduct were forwarded to the President of the NZSA, Harold Henderson (Ruakura Agricultural Centre, Hamilton), and to Garry Dickinson (Statistics New Zealand, Wellington) who chairs the working party that drafted the Code. They have prepared the following response, which should be treated as their personal opinion.

We very much appreciate the interest in the draft code by members of the SSC and the trouble they have taken in reading the draft and preparing their comments. We are replying issue by issue, noting where appropriate the names of the individual(s) who raised the point. Considering the volume of the comments (which reflects the complexity of the subject!) it's likely that we have inadvertently overlooked some.

The draft code follows closely that adopted in 1993 by the RSS. It is important to note that the NZSA considered the draft at its Annual General Meeting in August 1994. There was a very strong feeling in the meeting that the code should be made less mandatory in tone and more aspirational. This is being done in preparation for the next Annual General Meeting in August 1995.

Do statistical societies have a legitimate interest in the ethics of their members?

(Fienberg, Camacho, Morin, Chapman, Tomkins)

We believe they do. The origins of this initiative in the NZSA came from a realisation that statistics is not recognised generally as a coherent and useful discipline, at least in New Zealand. This means, we believe, that society and its individual members often suffer through the imperfect and inappropriate use of numeric data. One way to alleviate this problem is to make the users of such data aware of the skills and experience of statisticians. That is, the recognition of statistics as a profession is a worthy goal for those who call themselves statisticians. One of the things members of a profession have in common should be a set of guidelines for ethical behaviour, and these are what we are trying to put in agreed written form. As Fienberg

notes, people entering the profession do not find it easy to discover a statistician's responsibilities and obligations.

[A purely personal note here. I moved in mid-career from a scientific research institute to the central statistical agency. The ferocity with which the latter defends the confidentiality of personal and business data came a surprise. Twenty years experience of data on opossums and such-like had not prepared me at all for concerns about privacy! GD]

Why only ethics and not statistical principles?

(Fienberg, Morin)

We think that ethics are a first important step. If they are agreed, and more to the point, observed, then those outside our ranks will have some grounds for thinking that we are a profession, and that statistics is more than just a collection of Excel function calls. The principles of the ethical standards of statisticians will differ little from other professions, and this explains why codes of conduct could be moved from one profession to another without too much modification. Indeed it would be desirable to have codes as transportable as possible across both scientific and national boundaries. Maybe we need to call our draft a "Code of ethical conduct."

The development of codes of good practice on the acceptable ways of applying statistical ideas to specific subject matter fields would be a way of moving into a more operational mode. Such things have been floated in the NZSA but without too much ensuing enthusiasm. In fact some guidelines of good practice already exist and it should be possible to put together an index or list. For example, Statistics New Zealand has a publication on good survey practice which is written to be understandable and usable by non-statisticians.

Do we want to adjudicate on the ethics of our members?

(Fienberg, Camacho, Shillington, Chapman, Lawless, Tomkins)

This is a complex point. As noted above, the last NZSA Annual General Meeting wanted an aspirational code only. The draft #18 is designed to provide some reassurance to our members that we will help them as best we can if they come into conflict with their employers over ethics. I doubt if the NZSA would want to get into adjudication between members, but as a last resort we would probably have to. We are currently in a weak position with no provision in our constitution to expel any member for any reason, even fraud, and this needs correcting.

On a related point it should be realised that the NZSA has not been reluctant to enter into controversy on points of statistical principle and practice. We have a Survey Appraisals and Public Questions committee who have worked extremely hard and effectively over the past decade. They comment mainly on published surveys referred to them by the public, and have not been afraid to straight-talk when they feel it necessary.

"Membership is an assurance of ability and integrity."

(Camacho, Shillington, Lawless, Tomkins)

This statement is ambiguous and needs rewriting. The intention was to make the point that the general public have

legitimate grounds to believe that someone who belongs to something which calls itself a statistical association will in fact be both competent and have a degree of integrity in applying their skills. The Code of Conduct is a first step to making the latter attribute a reality. The NZSA, as it currently is constituted, cannot yet address the competency issue.

Can we expect objective behaviour of statisticians?
(Shillington)

We think that objectivity is a strong characteristic of statisticians, but maybe not of their clients. Most statisticians take great pains to let the data speak for itself, and they do not impose preconceptions on the results. Having said that, we think it desirable to emphasise the importance of this characteristic by putting it explicitly in the code.

Email List Updates

The following addresses have been added or changed since the list included with the last *Newsletter*.

Steve Black	stevbl@kcbbs.gen.nz
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Michael Keall	mdk@lt-ho.ltsa.postie.synet.net.nz
Jacek Krawczyk	jacek.krawczyk@vuw.ac.nz
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Quanxi Shao	quanxis@cryptic.rch.unimelb.edu.au

NZSA Book Launch

On June 29 the books *Women with Maths: Making a Difference* and *History of Women Through Statistics* were launched. The launch was lots of fun with good food, and a fitting end to the work that has gone into the Statistical Association Suffrage year project. The launch was greeted with some relief by those of us involved in the past three years, but with enthusiasm by those seeing the books for the first time. Watch out for the 'Newspapers in Education' features which are likely to be using the information from the books.

Women with Maths: Making a difference is available from the NZSA. It contains stories about enthusiastic, lively women who enjoy using numbers. *History of Women through Statistics* fills a real gap in our knowledge of how women have been counted historically. A copy has been sent to every high school. It is available from Statistics New Zealand.

Helen Stott

University of Auckland

There have been a number of recent changes in our staff at the Tamaki campus. We have gained David Scott, who has been appointed as Associate Professor and will take up his position in August. David is currently an Associate Professor at Bond University and has spent the past 18 months on leave at the University of Colorado. We hope to announce another appointment shortly. On the negative side, we have lost Steve Butt who has moved on to higher things in the Department of Management Science and Information Systems, and (temporarily we hope) Karla Ballman who has taken 6 months leave until the end of the year. In the meantime the gaps in our teaching programme at Tamaki have been covered admirably by two temporary tutors, Greg Pearson and Anita Kean. We said goodbye to John Petkau last month as he headed back to UBC after a very enjoyable (at least for us) year in Auckland. Next month, Jiti Gao will also be leaving, in his case to take up a post-doctoral fellowship at QUT in Brisbane.

The sterling efforts of our first year Statistics teaching team were recognised recently both by the Science Faculty, when the team won the Faculty Distinguished Teaching Award, and by the School of Mathematical & Information Sciences who awarded them the inaugural School teaching prize.

The University of Auckland moves onto a semestral timetable next year, somewhat behind most of the rest of Australasia, and most of our time recently seems to have been taken up in trying to plan for the transition.

Alastair Scott

University of Canterbury

John Deely was an invited speaker at the International Conference on Multiple Decision Theory (June 8-11) held in honour of Shanti Gupta's 25 years of service as the HOD of the Department of Statistics at Purdue University. Bert Keats has been here this term and gave stimulating lectures to Stage 3 and Stage 1 classes.

John Deely

University of Waikato

The University Council has now approved the establishment of a separate department of Statistics to stand alongside the departments of Computer Science and Mathematics within the School of Computing and Mathematical Sciences. Staff will comprise statisticians currently within the department of Maths & Stats and those from the Centre for Applied Statistics. The department will kick off at the start of 1996. A choice of inaugural chairperson is expected soon.

Massey University

Usually our mid winter news is of an exodus to the north, but this year we have an influx. Chuck Gates is coming from Texas A & M University, Ann Mitchell from Imperial College, and Govindaraja from Bharathier University, India. These three will be staying at the Palmerston North campus for the second semester.

One person is heading north. Over 4 months Siva Ganesh is visiting much of the Empire, with a few side trips: Uni of Toronto, Canadian Bureau of Stats, Ontario Institute for Studies in Education, Minitab Inc. and Penn. State, Uni of Reading (and take part in Stats Services Centre courses), Uni of Exeter (to re-establish research contacts with Prof. Krzanowski), Uni of Sheffield, Appl. Stats. Group at Uni of Central England, Germany (IDA'95 Conference - "Intelligent Data Analysis"), and Uni of Colombo.

Jeff Hunter's duties as Acting Dean have cut back his intended Winter Escape to two weeks in Singapore - one conference and PR for Massey.

Megan Pledger is moving from Wellington to Auckland, but continuing her PhD and teaching duties in Palmerston North. She has become our WWW expert, and thanks to her efforts if you browse around <http://www.massey.ac.nz/>

you will find out about the Department and see some attractive photographs of us and of Palmerston North.

We are half way through our first two term (that is, semesterized) year. Generally those in favour of the change think they are working well, others are not so sure. In the interests of educational research we should toss a coin each August to decide which of Palmerston North or Albany should teach in semesters the following year...

Seminars (Individuals are from the Statistics Department unless otherwise stated)

John Koolgaard, *Some results on discriminant analysis*

Richard Baker, *Single-stratum mark-recapture models with ancillary observations*

Charles Lawoko and Dick Harker (Policy Studies in Education), *The application of an hierarchical linear model in the investigation of the effects of schools on student learning*

Mhairi McHugh, *A comparison of some different methods for modelling the future cost of state superannuation.*

S. Ganesalingam, *Estimation of the mixing proportion in a mixture of two multivariate normal distributions*

Robin Milne (Department of Mathematics, University of Western Australia), *Simple derivations of properties of counting processes associated with Markov renewal processes.*

Applied Maths, Industrial Research Limited.

We recently waved a sad goodbye to Russell Boyles who has gone back to Portland to work as a private consultant. In between playing electric guitar at weddings and teaching SPC at Hewlett Packard, he's supposed to be helping us with our FRST programme, "Statistics for Quality Improvement". Russell will be returning down-under for the occasional visit and will be available at affordable rates, weddings and birthdays a speciality.

Even more recently, we airmailed Kit Withers to the International Conference on Statistical Climatology in Galway. Although it is well accepted that shifts in location can account for climate-change, Kit may find attendees reluctant to accept that shifts in scale are as important. From Galway, Kit flees to London, Stanford, the University of North Carolina, etc.

By the time this appears in print, David Rhoades will be at the IUGG Meeting in Boulder, Colorado. Meetees will no doubt spend their days (and nights) trying to convince each other that earthquake prediction really is a possibility.

See you all at the Aitken Conference!

Donal P Krouse

Statistics New Zealand

We are about to lose Dennis Trewin back to the ABS. This is a bit of a shock because we thought he was developing into a good Kiwi. We will certainly miss him.

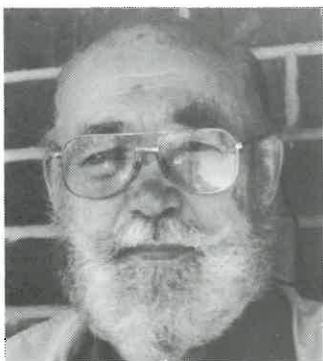
We have had visits from Jon Rao (survey design), Danny Pfefferman (time series and survey design) and John Zarb (time series). All three stimulated our thinking. John Zarb set a new standard for seminar excitement but probably would not make a good minister of finance.

The Wellington mathematical statisticians are having their office accommodation refurbished (we hope). Judith Archibald and Robert Templeton went to the US Census Bureau's ARC conference. Garry Dickinson, Carolina Kol and John Lopdell had a fortnight without rain at the ASA conference on survey quality in Bristol.

Departures recently include Gary Houston and Roger Macky; arrivals have been Troy Kusabs and Bronwyn Anderson.

Garry Dickinson

John Nelder Workshop



On Thursday, 27 April 1995 the Waikato Centre for Applied Statistics organised a one-day Workshop on Generalizing Generalized Linear Models which was presented by Professor John Nelder of Imperial College, London. The venue was the McMeekan Centre at Ruakura Agricultural Research Centre in Hamilton. Professor Nelder divided up the day into sessions with the following names:

Generalized Linear Models - Scope and Model Selection;
Model Checking and Quasi-Likelihood;
Joint Modelling of Mean and Dispersion;
Mixed and Hierarchical GLMs;
Implications for Computing.

The workshop was followed by a social during which, unfortunately, President Harold ran amok with his camera, assembling groups of old colleagues:



Past and present statisticians at the Wellington head office of the Ministry of Agriculture and Fisheries: Murray Jorgensen, John Jowett, Harold Henderson, Liz Robinson, Dave Saville, June Atkinson.



Guilty of working at the Mt Albert Research Centre at some stage in their lives: Nye John, Murray Jorgensen, Thomas Yee, John Maindonald, Barry McDonald, Liz Robinson, Dave Whitaker, Jocelyn Dale, Chris Triggs, Rod Ball.

AgStat95

AgResearch statisticians and kindred spirits held *AgStat95* on the afternoon before the Nelder day. **Contributions included:** Dave Johnson, *Review of REML*; Harold Henderson and Neil Cox, *Experiences from a repeated measures reading group with Crowder & Hand (1990)*; Dave Saville, *Genstat contrasts: Wagga and beyond*; Roger Littlejohn, *Repeated measures procedures*; Ruth Butler, *Using nonlinear curves to examine repeated measures data* and Peter Johnstone, *Designing growth curve experiments*.