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Statistics and Form 7

Late last year, the Ministry of Education called a group together to draft an "Addendum" to Level 8 (approximately Form 7) of Maths in the NZ Curriculum. The draft was available for comment from early March to 31 March. The NZSA Education Committee has commented extensively.

An issue lying behind this is:

How much Maths (including lots of Statistics) should be available in 7th Form (Curriculum Level 8); how much should be packaged into Unit Standards at Level 3 of the Qualifications Framework, and how much should be Bursary exams. In fact, how many Bursary papers in Maths should there be?

There are two subsequent issues: one is -

What Statistics should be available at this level? To put it another way, are there statistical methods which are privileged information, and should not be taught outside a tertiary institute?

The other issue is:

If there are to be two Bursary Maths papers, what arrangement should they have? The possibilities are

(a) Maths with Statistics and Maths with Calculus, having some overlap (the present situation),

(b) a Maths (with lots of Statistics) paper which many students would do, and an Advanced Maths (with lots of Statistics) paper which a subset of those students would do,

(c) a Maths paper and a Statistics paper.

NZSA members need to consider and discuss those questions (and let us know the answers!).

And you can send your answers in to Mike Camden, Mathematics and Statistics, Wellington Polytechnic. [m.camden@wnp.ac.nz]

Clinical Trials Research Methods Workshop: Report

This workshop was held in Auckland on February 15th and 16th 1995. It was jointly organised by Katrina Sharples a biostatistician from the Otago Medical School, and Stephen MacMahon the Director of the Clinical Trials Research Unit at the University of Auckland, and was sponsored by the Health Research Council of New Zealand. The key speakers were Professor Tom Fleming, Chairman of the Department of Biostatistics, University of Washington, USA; Professor Curt Furberg, Chairman of the Department of Public Health Sciences, Bowman Gray Medical School, USA; and Dr Anthony Keech, Deputy Director of the NH&MRC Clinical Trials Centre in Sydney. The workshop proved to be very popular and attracted people from a wide range of

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Katrina Sharples shows Tom Fleming the South Island

In this issue:

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President's Column

I'll touch on funding issues and highlight a few recent successes.

Science Funding

The Government's move toward greater funding of basic research has begun with many scientists putting in preliminary proposals to the new $4.8 million Marsden Fund. 1028 proposals were submitted totalling $114 million! Mathematical and Information Sciences (MIS) is one of the five categories in the discipline based framework of the Marsden Fund. 127 proposals totalling $14 million were in the MIS category. It seems likely that 18 of these will be invited to submit full proposals and about half of these to be funded from the $0.45 million in the MIS category. Professor Roy Kerr chairs the MIS panel of Ian Axford, Garth Carnaby, David Vere-Jones, Rod Goldblatt and Robert Davidson.

While statistics is part of the Mathematical and Information Sciences category of the Marsden Fund, there is still a real danger of losing capability in these sciences through inadequate funding of them by the much larger ($266 million) Public Good Science Fund (PGSF). The low appreciation of these disciplines in NZ means there is a real possibility of mathematical and information sciences falling through the cracks in PGSF to the detriment of science and applied science in this country.

Statistics has had an important role in research throughout the twentieth century. The dramatic rise in the amount of data that can now be easily collected is increasing the demand for people with specialist statistical skills to extract quality information from data, to develop improved tools for doing this and to help others develop these skills. Modern computing power, allied with recent theoretical developments in experimental design, can accommodate a wide range of situations that occur in experimentation. There is an explosion of opportunities to get better outputs from the input dollar through these methods. Statistics has provided the common quantitative methodology for dozens of disciplines. These tools are of a generic nature and creating and developing them is strategic research, possibly initiated by one specific output but being applicable across almost all areas. There are real concerns that - being generic - they will not receive funding or recognition within any particular output class. Mathematics and statistics are "everywhere" but sometimes this is "nowhere" in the funding hierarchy.

Bradley Efron's article 'The statistical century', in the January 1995 *RSS News* makes interesting reading. He comments that "the first half of the century was the golden age of statistical theory, during which our field grew from ad hoc origins, similar to the current state of computer science, into a firmly grounded mathematical science". He predicts "periods of rapid methodology building, like that at the end of the 19th century, are likely to be followed by a theoretical consolidation of the gains. The beginning of the 21st century may witness another golden age of mathematical statistics. There is certainly enough methodological grist to keep the theoretician's mill running for quite a while."

NZSA and MISCNZ made submissions to the Science Priorities Review Panel (SPiR). Their draft discussion document *Establishing Priorities for the Public Good Science Fund* was released March 24 and submissions have been called for by May 8.

Statistics NZ funding

The government has agreed to provide an extensive capital injection to upgrade the IT facilities at Statistics NZ. Perhaps this is a significant turning point in the commitment of government to provide good statistical information.

Bryan Manly, FRSNZ

Congratulations to Bryan Manly, University of Otago, on being elected a Fellow of the Royal Society of New Zealand. Last year Bryan went to London to receive a DSc from his old University and also received an award as "distinguished statistical ecologist" at an International Ecology Conference.

Careers Brochure and posters

I am delighted to report that 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 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.

A. C. Aitken Conference 1995 NZSA Conference University of Otago, Dunedin 28 August -1 September 1995

Plan on being at this year's statistical event! Bryan Manly and his team are doing a great job in organising this week. Please let Bryan know as soon as possible if you will contribute a paper. In order for the statistics component to be a success we must have a large number of talks from members of the Statistical Association. It would be helpful if you could register early too - even before the rate increase on June 1. A registration form is enclosed.

Student Travel Grants and Prize

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. Information on student travel grants is available from the Aitken Conference Administrator at the address on the registration form.

Harold Henderson

Editorial

I would like to draw the attention of all readers to the new section in this *Newsletter* entitled *Statistician on a Soapbox*. In this section I hope to encourage a regular flow of opinions and arguments from the membership of the NZSA on a wide variety of topics, either to do with the practice of Statistics or with the relationship of the Statistical profession to the rest of society. I want to encourage all members to think of submitting an article to this section about a matter, great or small, on which they feel strongly. Do not be daunted by the length of John's article: I have extended him special licence as the first contributor to have his head. The ideal contribution to this section might comprise a single page or less of the *Newsletter*.

As Editor, of course, I am able to sound off on any issue if the mood so takes me, and I'm afraid that this time it does! What has been bothering me is whether the widespread perception that Statistics is boring has anything to do with the way we teach the subject, or present it to our clients. On learning that I was a statistician two recent acquaintances commented "Goodness, how boring that must be!". For once I had a rejoinder: "Really?" I said, "I have never found puzzling out the mechanisms by which the Universe works to be all that boring!" I suppose I was lucky that they didn't come back at me on the rather grand claims for Statistics implicit in my statement, however the idea that the models that we fit try to describe or approximate in some broad-brush way the processes underlying the generation of the data is central to my own enjoyment of statistics. The thought that one might learn something about an area is what makes it much more fun to analyse a set of real data than a set of artificial data. For me Statistics revolves around models: model building, model selection, estimating model parameters and making predictions from models.

Why then, is the notion of model so absent from a beginning course in Statistics? The ideas that dominate in these courses are the ideas of Sample and Population. I must admit that I can hardly write down those words without a massive yawn coming on. Maybe that's why I never got into Official Statistics! (Yet even this part of Statistics is making more use of the notion of model in design and estimation. It is also giving thought to the problems that arise when survey data is analysed by the construction and fitting of models as opposed to more simple summary statistics - see the description of Montreal Workshop W3 on page 10 of this *Newsletter.*)

What would a model-centred introduction to Statistics look like? I'm not really all that sure at the moment, and it would depend a lot on the abilities and backgrounds of the students. I do know that it would give a lot more time to regression than is usual in the standard course pattern of today. Topics like the two-sample problem (another yawn coming on!) might be approached via regression. Testing would be considered in the comparison of nested models - the only context in which it makes much sense to me. It might be necessary to take some distribution theory on trust, perhaps reinforced by a few judicious simulations. There! I'd like to teach a course like that!

However I know that Statisticians disagree on what Statistics *really is.* Some say "it's about making decisions", some say "it's about predicting things", some say "it's the study of variation". Maybe we need to get some agreement about what it's all about before we can really sharpen up our introductory courses enough to capture the imagination of students and build a greater understanding of Statistics in our society. If you think you know the true nature of Statistics or want to respond to this Editorial in any way, how about writing an article for the new *"Soapbox"* series?

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President's Card

Harold Henderson is interested in your views on Association activities.

phone: (07) 838 5151 direct dial
or call AgResearch
(09) 307 0784 Auckland
(06) 356 8019 Palmerston North
(04) 528 6089 Wellington
(03) 325 3011 Christchurch (03) 489 3809 Dunedin
and ask for Ruakura extension 5151
email: hendersonh@ruakura.cri.nz fax: (07) 838 5012
Statistics, AgResearch Ruakura, Private Bag 3123, Hamilton

Letter to the Editor

Dear Editor

I thank Stan Roberts for his remembrance of the beginnings of the New Zealand Statistician; the contribution of John Revfeim should, however, not be overlooked. While I was the editor in the sense that I wrote, solicited and collated most of the material, it was John who took on the responsibility of getting it printed and distributed. Without his contribution, the *NZ Statistician* would not have come into being, at least at that time.

Perhaps it is a symptom of ageing but I do not remember the genesis of the *NZ Statistician* being quite the struggle that Stan seems to imply, although I seem to recall that I brought up the matter of a publication more than once. To describe the motivation I can do no better than quote from the editorial that I wrote for the first issue. "There is a rapidly increasing demand, throughout New Zealand, for people trained in statistical method, both in government and industry. There is an awareness that statistical reasoning is becoming an important part of everyday life. There is thus being generated a demand for statistical education in the schools as well as universities. There must be a vast potential membership of a society devoted to the teaching and application of statistical theory. Such a body does, of course, exist but to reach all those that it can and should serve it must widen its activities. It must provide something for those who cannot attend its one meeting a year. [I was, of course, influenced by being in the then relative isolation of Rotorua]. This would be the main objective of a publication. There has been some discussion whether it should be called a newsletter or a journal. I would envisage it as a little of both, although this first issue cannot in actuality be described as either". (The first issue placed on record a history of the NZSA up until that time). It was not until the third issue (Vol. 2 No. 1) that the *NZ Statistician* started to take the form envisaged; it contained an editorial, a discussion on statistical education in New Zealand to which seven members contributed, a book review provided by Hamish Thompson, the continuation of a listing of New Zealand statisticians, sadly an obituary for Arch Glenday, and two short technical articles by W.A. Poole and G.A.F. Seber.

Although I edited two further issues, it was in that issue that I announced my impending departure from New Zealand to take up a offer in Vancouver, Canada. Accordingly, I feel that it is necessary to recognize also the contribution of W.A. Poole, who took over from me, and his successors, who, because of their belief in the concept, built on what was then a very fragile foundation and led to the *NZ Statistician* and *Newsletter* being the integral part of the NZSA that they are today. Certainly the split into two publications was not envisaged in those early days but was, perhaps, a natural development. It is noted than in pre *Amstat News* days the *American Statistician* played both roles.

One parting shot - I admit to being biased but I still prefer the original cover design and never really understood the reason for changing it.

Bill Warren

Women making differences, sums, products, limits . . . . .

The Suffrage Project book, *Women with Maths - making a difference*, finally exists!

Early feedback from educators is that they love its style, love the concept and are sure it will be a very valuable asset.

For anyone who doesn't know about the book, it 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 shaping and editing the text underwent was funded from grants made over the last few years by the late Professor J T Campbell, the first President of the NZSA and a stalwart supporter of women in mathematics throughout all of his long life. Further funding for production has come from a grant from the Ministerial Committee, Science and Technology Promotion Advisory Council (SATPAC), administered through the Ministry of Research Science and Technology. The balance has been underwritten by the NZSA, in the hope of recouping it through sales.

The stories are 1993 snapshots of the lives of the women, who ranged in age from 17 to 71 at the time. The women have a very wide range of careers. They are not just the expected teachers and researchers. This is the book's great strength, I feel. The diversity of uses for mathematics and statistics is not generally grasped, so by focusing on this diversity we hope to encourage young women to see mathematics and statistics as the key to opportunity which will enable them to lead more exciting lives than they may otherwise do. Each story is accompanied by a lively picture of the subject and the stories also tell of non-career interests to show how a full life can mix with a valuable career. These are certainly not your stereotyped two-dimensional characters often associated with mathematics and statistics.

Of course the advice to study mathematics and statistics extends to young men as well as young women, but with the initial funding coming from the Suffrage Centennial Trust the focus did need to be on women.

Another attribute of this book which has been very pleasing to those who have worked so hard to make it happen has been the diversity of backgrounds of the women in the book. This lays to rest the myth that mathematics is the preserve of the white middle-class. We hope it will encourage those who do not come from this background to aspire to careers which need numeracy skills.

Please tell everyone you can think of about this book. A flyer and order form accompany this newsletter and more are available from the Publications Committee, NZSA. On direct order the book is $19.95, P&P included. Later it may be available through bookshops at $24.95, so buy early!

Jean Thompson

Young Statisticians Update

In the December issue we interviewed Marianne Vignaux, who has recently been appointed coordinator of a sub-committee of the NZSA Executive who are to provide special services to young statisticians. Marianne says she is pleased with the response from that article, but would still love to hear from anyone more. "The impression I'm getting", she says, "is that what people need most is information - mainly information about what kinds of jobs are available, and who our potential employers are". In response to this, the group are investigating the possibility of holding a "Meet the employers" session at this year's NZSA conference, which will be held in conjunction with the A.C. Aitken Conference in Dunedin (28 August - 1 September 1995). This would give Young Statisticians the chance to meet face-to-face with some of their potential employers, and find out who they are and what they want. It would probably take the form of a 2-day workshop which would include presentations from employers and working statisticians about their jobs. More details later.

In addition to this (for those who can't make it to the conference) Marianne is also compiling a list of organisations in New Zealand who employ statisticians. "I think that this will do two things: it will broaden people's perceptions about the kinds of things statisticians do (after all, I count fish!) and it will give them a useful resource for the actual job hunt. But before this information can be released, we need to check with the organisations involved that it is OK to put them on that list". So don't write to Marianne asking for copies of the list - she will let you know as soon as it is available.

Marianne can be contacted at
MAF Fisheries, PO Box 297, Wellington
vignauxm@frc.maffish.govt.nz

The NZSA also provides a service, currently free, where notification of job vacancies in Statistics are distributed by electronic mail to a large number of sites and individuals. If you are a job seeker or wish to advertise a statistical job please contact Murray Jorgensen [maj@waikato.ac.nz] for more details.

Clinical Trials Workshop (continued from Page 1)

disciplines. We had anticipated 40 - 50 people, and planned for up to 100. In the event we reached the 100 mark and had to turn away a further 20.

All the speakers gave excellent presentations. Between them they covered all the main current methodological issues in clinical trials, including the dangers of using surrogate measures of outcome in definitive trials, potential sources of bias in clinical trials, the effect of poor measurement of outcome on the results, and the pitfalls of subgroup analyses. Tom Fleming also discussed the role of data monitoring committees in clinical trials, which generated some useful discussion on how New Zealand might proceed in this area. A wider perspective on clinical trials was provided by Mark Elwood and Norman Sharpe - reminding us that our jobs should not always end with publication of the results in a journal. Mark's talk illustrated the difficulties which can occur in implementing the results of clinical trials in public policy while Norman illustrated some of the difficulties in implementing the results of clinical trials in clinical practice, and reminded people of the issues of cost-effectiveness and rationing of health care which in this day and age must play a part in any decision about which services or treatments to offer.

Overall the workshop seems to have been a great success. Ailison Clague of the Clinical Trials Research Unit took on much of the organisation required, and did an excellent job. We have already had several queries as to what/when the next workshop will be, and we do plan to follow up on this event. Thanks to all those who came and helped to make it a success!

Katrina Sharples

Aitken Conference

Monday 28 August - Friday 1 September 1995
Dunedin

Up-to-date information about fees, timetables, talks, etc can be obtained by sending the one-line email message

```
sub aitken_conf
```

to the address maiser@maths.otago.ac.nz

Other commands that can be sent in the same way are

```
help    index    send <filename>
```

and

```
unsubscribe aitken_conf
```

Any difficulties not resolved by using the "help" command can be discussed with Mark Borrie [mborrie@maths.otago.ac.nz].

Statistician on a Soapbox

John Jowett, of the Applied Statistics Group at MAF Head Office, starts off this new series of guest articles in which statisticians speak out about matters great and small that have aroused there concern or maybe even their passions!
Normally they will be somewhat shorter than this, but John was first off the mark and especially eloquent so I'm giving him special licence!

When to use a Type III Sum of Squares.....

In response to Murray's request to fulminate, herewith my fulminations against the increasingly ubiquitous "Type III Sum of Squares".

Returning to my former calling eighteen months ago, I found that things had changed a lot during my seven years of absence. I was introduced to a most remarkable statistical package called SAS. It seemed to be able to do anything: all the things one used to want to do but couldn't. However, it kept bombarding me with things called Type I and Type III sums of squares. Now I was used to sums of squares having names (like "Error", "Between plots within blocks" and so on) but what were these new names about? Various gleanings like these (SAS,1990) gave me a clue:

"The type I SS measures the incremental sum of squares for the model as each variable is added"

- I thought that that's what they all are.

"The type III SS is the sum of squares when that variable is added last to the model."

- Oh, I see: that's handy, it saves you having to keep fitting the same model over and over again with the terms in different orders as we used to have to do.

Then disaster: - I wonder what a Type II SS is. There doesn't seem to be much left for it to be.

"The Type II SS is the reduction on error SS due to adding the term after all other terms have been added except those that contain the effect being tested."

- Oh, ____! I thought that was a Type III SS.

My temporary conclusion was that Type II and Type III are the same but different, and therefore to be avoided, and so for a while I stuck to Type I. In my subconscious mind, I knew that the only way out was that Type III SS arose from fitting an effect after one or more interactions involving that effect had already been fitted. This knowledge was rejected by my conscious mind because

a) it seemed such an extraordinary thing want to do and

b) since you got bombarded with Type III without asking for them whereas you had to ask for Type II, the Type III ought to be the ordinary one and Type II the oddball one, rather than the reverse.

Eventually, however, matters came to a head when I was asked to look at a paper containing the following statement, concerning a model with five main effects and seven two factor interactions: "Significance of the independent variables was assessed using Type III sums of squares". Well, it looked as though the time had come when I had to find out exactly what they are.

The relevant starting point seemed to be Chapter 9 in the SAS manual *("The Four Types of Estimable Functions")*. I had already looked at this, but had not made much sense of it. Now, after looking through it several times more, I decided to do my own analysis of one of the examples they gave, in the hopes that coincidences between my analysis and theirs might help me to understand what they were talking about. The example is a two by two factorial with two observations in each cell except the last, which has one observation. That is, data of the following form:

Levels	$B=1$	$B=2$
$A=1$	Y_{111}, Y_{112}	Y_{121}, Y_{122}
$A=2$	Y_{211}, Y_{212}	Y_{221}

Eventually I sorted things out to my own satisfaction, as described below.

The models which one might fit to this data are as follows:

1. $E(Y_{ijk}) = \mu$
2(a). $E(Y_{ijk}) = \alpha_i$
2(b). $E(Y_{ijk}) = \beta_j$
3. $E(Y_{ijk}) = \alpha_i + \beta_j$
4. $E(Y_{ijk}) = \alpha_i + \beta_j + \lambda_{ij}$, where $\lambda_{11} = \lambda_{22} = \lambda$, $\lambda_{12} = \lambda_{21} = -\lambda$
4'. $E(Y_{ijk}) = \mu_{ij}$

Here models 4 and 4' are simply reparametrizations of each other.

The distinction between Type III and Type II appears only when the model specified in the MODEL statement is 4. Then the Type II and III SS differ for the "main effects" A and B. The distinction is as follows.

The Type II sum of squares for B is based on the contrast

$$\tfrac{3}{5}\left(\overline{Y}_{11} - \overline{Y}_{12}\right) + \tfrac{2}{5}\left(\overline{Y}_{21} - \overline{Y}_{22}\right)$$

which provides the most efficient unbiased estimate of $\beta_1 - \beta_2$ under model 3. It is not unbiased for $\beta_1 - \beta_2$ under model 4, as its expected value depends on λ.

The Type III sum of squares for B is based on the contrast

$$\tfrac{1}{2}\left(\overline{Y}_{11} - \overline{Y}_{12}\right) + \tfrac{1}{2}\left(\overline{Y}_{21} - \overline{Y}_{22}\right)$$

which provides an unbiased though slightly less efficient estimate of $\beta_1 - \beta_2$ under model 3, and the most efficient unbiased estimate of $\beta_1 - \beta_2$ under model 4.

Now if there seems to be an interaction (i.e. $\lambda \neq 0$), and one for some reason wanted to estimate or test $\beta_1 - \beta_2$ (although this would normally be a fairly meaningless thing to do), there is no question but that the Type III sum of squares would be the correct one to use. However there is an argument that since we can never be completely sure that there is no interaction, we should stay on the safe side by using Type III all the time. Surely the slight loss of efficiency involved in using the Type III contrast (4% in the example) is more than compensated for by the fact that our tests and procedures are no longer invalidated by the presence of an interaction. Sounds convincing, doesn't it? Many people apparently find it so.

Thus we find Herr (1986), in an article reviewing the historical development of the analysis of unbalanced factorials, saying *"It seems that ... in general we took various methods and, treating them as more or less equal, programmed our statistical packages to use whatever method we had learned. Then we championed this method as 'the method.' How else does one explain SPSS using EAD as the default analysis, when few who understand would use it unless they were certain there was no interaction."* In other words, never. By EAD (Each ADjusted for the other) Herr is referring to tests based on the Type II sum of squares. (I wonder where he would stop. Suppose he had an unbalanced 2^8. Could he ever be quite certain .....?)

It is this argument, I suspect, that has led to the ubiquity of Type III, and absence of Type II in my SAS output.

The objection to the argument is that the parameters α and β in model 4 are largely mathematical artifacts, and estimates of them have no interest. The reparametrization of 4' as 4 is introduced to define λ in a model from which it can readily be dropped to provide a significance test, and α and β are basically nuisance parameters in this model. An estimate of $\beta_1 - \beta_2$ normally has no meaningful interpretation except under the assumption that $\lambda = 0$. For if we return to the parametrization 4', we see that

$$\beta_1 - \beta_2 = \tfrac{1}{2}\left(\mu_{11} - \mu_{12}\right) + \tfrac{1}{2}\left(\mu_{21} - \mu_{22}\right)$$

which is an average of the effect of B over the two levels of A, and there will normally be no reason to believe that the equal weighting given to the levels of A are appropriate. The sensible thing to do in studying the effect of B in the presence of an interaction is to give separate estimates of the effect for each level of A. It does not seem sensible to combine them in an average unless weights are chosen to reflect the relative frequencies with which the levels of A occur in some interesting population. If there is no interaction, the weights are of course irrelevant, and whatever they are, the average is most efficiently estimated by the Type II contrast. Thus in using the Type III test, the only return the investigator gets in exchange for the loss of power when $\lambda = 0$, is that in the event that $\lambda \neq 0$ his conclusions will still be valid conclusions about something of no interest with nice simple coefficients, instead of valid conclusions about something of no interest with coefficients that depend on the cell counts.

So three cheers for SPSS. Which statistician do you think is doing the best job?

Statistician A (Good Egg):
States that there is no evidence that the effect of feed supplement varies with breed. Gives an estimate of weight gain due to feed supplement with a standard error of 1.0 kg, significantly different from zero at the 1% level. When pressed, admits that if in fact there is really a breed X feed interaction, this estimate is strictly applicable to a flock of which 29% are Romney, 33% are Southdown and 38% are Cheviot. Suggests that to be on the safe side, separate estimates for each breed could be provided, but that they would have larger standard errors than the single estimate.

Statistician B (Good Egg but seduced by Type III):
Given the same data, states that there is no evidence that the effect of feed supplement varies with breed. Gives a slightly different estimate of weight gain with a standard error of 1.2 kg, significantly different from zero at the 5% level. When pressed, admits that if there is in fact a breed X feed interaction, this estimate is strictly applicable only to a flock of which one third are of each breed. This is where he reaps his reward for in effect throwing away some of his data: this hypothetical flock composition is simpler than A's. (He describes this to himself as "robustness against the presence of an interaction" - it makes the sacrifice seem more worthwhile.) Suggests that to be on the safe side, separate estimates for each breed

could be provided, but that they would have larger standard errors.

Statistician C (Type III fanatic):
Gives the same estimate as Statistician B, which he describes as the estimated mean weight gain in a flock in which one third are Romney, one third Southdown and one third Cheviot. He hastens to add (before his client has time to throw anything at him) that since there appears to be no feed X breed interaction (although of course one can never be really sure) the estimate could possibly be applied (at the client's own risk) to other flocks as well. Does not get pressed: his client is too busy trying to remember the name of that statistician he met the other day .....

Statistician D (Bunny with SAS):
Starts off in the same way as Statistician B, but when pressed, assures his client that the Type III procedures he has used remain valid in the presence of interactions .....

If you would rather be A than B, you are on my side. Help stamp out Type III sums of squares! Otherwise we are going to have to cope (or worse, not have to cope) with a growing number of Ds. We needn't worry about the Bs. They will be back in the fold by now. No one could cope with a C, but that doesn't matter, he won't have any clients anyway. I suppose he might .... Oh, good grief, he might end up in a University teaching all those students to .....

Yes, well... **.... NEVER!**

REFERENCES

Herr,D.G.(1986), "On the History of ANOVA is Unbalanced, Factorial Designs: the First 30 Years," *The American Statistician,* 40, 265-270.

SAS(1990), *SAS/STAT Users' Guide, Version 6, Fourth Edition,* Cary NC USA: SAS Institute Inc.

New Zealand on the Web

Brian Harmer, of the Department of Communication Studies at VUW has posted a list of URLs with information about New Zealand. You may like to check some of these out with Mosaic or Netscape and pass them on to overseas contacts wishing to know more about New Zealand. Here it is:

http://www.actrix.gen.nz/index.html
http://www.cs.cmu.edu:8001/Web/People/mjw/NZ/MainPage.html
http://www.cs.cmu.edu:8001/Web/People/mjw/NZ/NZNewsArchive/
http://liber.stanford.edu/~torrie/
ftp://ftp.netcom.com/pub/turf/nz/FAQ_New_Zealand
http://www.rsnz.govt.nz/
http://www.gphs.vuw.ac.nz:80/meteorology/meteorology.html
http://actrix.gen.nz//users/jbarton/index.html
http://www-leland.stanford.edu/~jmgeorge/nz.html
http://www-leland.stanford.edu/~jmgeorge/ifaq.html
http://charm.wcc.govt.nz/extern/kennett/homepage.htm
http://www.indirect.com/www/richardk/NZgraphic.html
http://actrix.gen.nz/users/dgold/nzso.html
http://133.30.120.10:10080/=@=:www.ntt.jp/AP/oceania.html
http://www-swiss.ai.mit.edu/~philg/new-zealand/new-zealand.html
http://pluto.taranaki.ac.nz/pukeiti/locus.html
http://www.rsnz.govt.nz/cgi-bin/news?rsnz/news

If you are following the America's Cup you may also be interested in the following Web page:

`http://www.ac95.org/`

Statistical visitors to New Zealand

The following information is extracted from the list "Mathematical Visitors to New Zealand" compiled by Dr David Robinson of the University of Canterbury for the New Zealand Mathematical Society. I urge members to support this work of David's by sending him details whenever they are hosting a visitor. -Editor.

One of the main purposes of this list is to enable other institutions to invite visitors to spend time with them. Anyone wishing to issue such an invitation should do so through the principal contact person.

The information for each item is arranged as follows:
Name of visitor; home institution; whether accompanied; principal field of interest; dates of visit; principal host institution; principal contact person; comments.

###############

Professor Jim Berger; Purdue University; accompanied by wife (Ann); bayesian statistics; July 16 to August 16 1995; University of Canterbury; Prof. J J Deely; Erskine Fellow.

Dr Jim Filliben, Senior statistician, US National Institute of Standards & Technology; statistical package DATAPLOT; August 1995; Applied Mathematics Group, Institute of Industrial Research, P.O. Box 31-310, Lower Hutt; Dr Kit Withers (email: c.withers@irl.cri.nz)

Prof Charles ('Chuck') Gates; Texas A&M University; accompanied by wife; applied statistics and biometrics; July to October 1995; Massey University; Jeff Hunter.

Dr K Govindaraju; Bharatheiar University, India; unaccompanied; statistical quality control; July to October 1995; Massey University; Professor Jeff Hunter; probable.

Dr Jim Hartman; The College of Wooster, Ohio, USA; applied statistics; May 1995 to May 1996; University of Otago; Prof. Bryan Manly.

Professor J. Bert Keats; Arizona State University; unaccompanied; statistics; May 9 to June 16 1995; University of Canterbury; Prof. J Deely.

Dr Marti McCracken; Universidad De Concepcion, Chile; statistics; 1 July to 31 December 1995; University of Otago; Prof Bryan Manly.

Dr Ann Mitchell; Imperial College; unaccompanied; Statistical Inference;July to October 1995; Massey University; Professor Jeff Hunter.

Professor Wolfgang Polasek; University of Basle; accompanied by wife and two children; statistics; July 10 to August 18 1995; University of Canterbury; Prof. J Deely.

Professor Dan Tandberg; Department of Emergency Medicine, University of New Mexico, Albuquerque; accompanied by wife (Nancy) and two children; medical statistics; January to June 1995; University of Canterbury; Prof. J J Deely.

Please note: Production of these lists is dependent on me receiving information. When you know about a visit (whether it be definite, very likely, or possible), would you please forward the details to me at the earliest convenient time. Thank you.

David Robinson [d.robinson@math.canterbury.ac.nz]
N.Z. Mathematical Society Visitors' Co-ordinator
Department of Mathematics and Statistics
Private Bag 4800
University of Canterbury
Christchurch, New Zealand fax: (03) 364 2587

Education Committee Report

Two members have found that their other commitments cause them to withdraw. Megan Clark (VUW) and Jo Higgins (Wellington College of Education). I'd like to acknowledge their contributions over several years. In particular, Megan has been a major contributor to the Committee's views. We've been joined by Dianne Leggett (Teacher Support Services, Wellington) who will continue Jo's interest in Statistics in Primary Schools.

We're working on the Form 7 Addendum, the Maths Unit Standards (which are now released for consultation and trial in about 60 schools), contributions to NZAMT and Aitken conferences, and a possible NZSA conference (1996?) to focus on Research on Statistical Education (a topic which doesn't get the public airing in NZ that it gets elsewhere).

Mike Camden

Invited Speakers at Aitken Conference

Monday 28 August - Friday 1 September, 1995

This list of invited speakers is current as we go to press, see page 5 for details of how to obtain an up-to-date Conference programme by email. The conference office itself can be reached at the address
`casm @math.otago.ac.nz`

Fenton, Peter: Aitken's Time in Dunedin
University of Otago (Monday, 4pm)

McArdle, Brian: Topic on Ecological Statistics
University of Auckland (Tuesday, 9am)

Tee, Garry: Aitken's Work Generally?
Auckland University (Tuesday, 9am)

Schneider, Hans:
University of Wisconsin-Madison (Tuseday, 11am)

McBride, Graham: Topic on Environmental Statistics
NIWA, Hamilton (Tuesday, 1:30pm)

Penfold Street, Anne: Canonical Matrices
University of Queensland (Tuesday, 4pm)
David, Herbert: First (?) Occurrence of Common Terms in Mathematical Statistics
Iowa State University (Wednesday, 9am)

Ledermann, Walter: A.C. Aitken: His Contribution to Pure Mathematics
Retired, U.K. (Wednesday, 11am)

Cook, Len: Statistics in the Development of Public Policy
Statistics N.Z., Wellington (Thursday, 9am)

McLauchlan, G.J.: On Aitken's Method and Other Approaches for Accelerating Convergence of the EM Algorithm
University of Queensland (Thursday, 1:30pm)
[Curses! He's pinched my topic! Ed.]

Tuck, Ernie:
The University of Adelaide (Thursday, 1:30pm)

Searle, Shayle: Aitken & Least Squares
Cornell University (Thursday, 4pm)

Rees, Elmer: Aitken & Edinburgh University
Edinburgh University (Friday, 9am)

Styan, George: Matrix Methods in Statistics
McGill University, Canada (Friday, 11am)

Watson, Alistair: Algorithms for the Analysis of Co-ordinate Measurements
Dundee University, Scotland (Friday, 1:30)

Joint Annual Meeting (SSC/IMS) and Four Satellite Workshops

Montreal, Quebec, Canada: July 8-16, 1995

The 23rd Annual Meeting of the Statistical Society of Canada (SSC) and the 58th Annual Meeting of the Institute of Mathematical Statistics (IMS) will be held together as a Joint Annual Meeting in Le Centre Sheraton Hotel, 1201 Boulevard Rene-Levesque West, Montreal, Quebec, Canada. The early registration deadline date is May 15, 1995. For Registration forms contact George Styan [mt56 @musica.mcgill.ca] or the conference office [stats@550sherb.lan.mcgill.ca].

Invited Sessions:

Topics in Longitudinal data; Practical Issues in Markov Chain Monte Carlo; Geometrical Methods in Statistics; Inference, its Evolution and Directions; Probability and Analysis; Stochastic Processes on Fractals; Statistics for Dynamics and Fractals; Measure-valued Processes Motivated by Genetics; Analysis of Incomplete Data; Applications of Large Deviations; Applications of Coupling; Statistics and Genetics; Graphical Models and Invariance in Multivariate Analysis; Symbolic Computation for Research in Statistics; Statistical Inference in AIDS Research; Adaptive Designs; Statistics and Science; Small Area Estimation; Benchmarking Data from Repeated Surveys; Psychometrics;Time/Space; Random effects; Statistics and Neurophysiology; Robustness in Linear Models; Bayesian Methods for Categorical Data; Issues in the Teaching of Statistics; Time Series; Environmental Issues; Ethical Issues in Clinical Trials; Adjusting for Covariates, Post-Randomization and Related Topics; Survey Methods in Wildlife and Fisheries Management; Econometrics; Contemporary Nonparametric Techniques; Environmental Epidemiology; Planning and Evaluation of Sequential Trials.

There will be Four Satellite Workshops, all four also to be held in Le Centre Sheraton Hotel:
W1. New Directions in Probability: Theory and Simulation of Spatial Stochastic Processes.
W2. Categorical Data Analysis Workshop.
W3. Statistical Analysis of Complex Survey Data Workshop.
W4. Fourth International Workshop on Matrix Methods for Statistics.

The Second North American Meeting of New Researchers in Statistics and Probability will be held at Queen's University in Kingston, Ontario, Canada, July 5-8, 1995. This Meeting, organized by the IMS New Researchers' Committee, is designed for recent PhD recipients in Statistics and Probability to share their research interests.

The Fields Institute for Research in Mathematical Sciences and the Centre de Recherches Mathematiques (CRM) will jointly sponsor a Workshop on Nonlinear Dynamics and Time Series: Building a Bridge between the Natural and Statistical Sciences. This Workshop will be held at the CRM in Montreal, July 15-18, 1995.

Workshop W1: Directions in Probability Theory and Simulation of Spatial Stochastic Processes

Montreal: Saturday, July 8-Sunday, July 9, 1995
Organized by Maury Bramson, David Griffeath and Claudia Neuhauser (Univ. of Wisconsin-Madison), this Workshop, to be held in Montreal on Saturday, July 8 and Sunday July 9, 1995 (the weekend just preceding the SSC/IMS Joint Annual Meeting) will focus on contemporary trends in the rigorous and empirical study of spatially-distributed random dynamics. Topics to be covered will include measure-valued diffusions, random cellular automata, interacting particle systems, Monte Carlo Markov chains, and pseudo-random number generators.

Workshop W2: Categorical Data Analysis

Montreal: Sunday, July 9, 1995
Organized by Claudine Legault (Bowman Gray School of Medicine, Winston-Salem) and featuring Gary G. Koch (Univ. of North Carolina, Chapel Hill), this Workshop, to be held in Montreal on the Sunday July 9, 1995 (just preceding the SSC/IMS Joint Annual Meeting) addresses the conceptual background and computational procedures for statistical methods for categorical data analysis. Attention is given to two complementary strategies:

(1) Nonparametric (randomization) methods (e.g., Mantel-Haenszel tests) for testing hypotheses of no association under minimal assumptions.

(2) Regression methods for fitting statistical models to describe multivariate relationships (e.g., logistic regression, Poisson regression, weighted least-squares regression).

Workshop W3: Statistical Analysis of Complex Survey Data

Montreal: Sunday, July 9, 1995
Organized by David Binder and Pierre St-Martin (Statistics Canada) this Workshop, to be held in Montreal on the Sunday July 9, 1995 (just preceding the SSC/IMS Joint Annual Meeting), will review the various issues and techniques for analysis of complex survey data with some applications of those special techniques being illus- trated based on some complex surveys conducted mainly by Statistics Canada. The themes being covered could be summarized as follows:

What is a complex survey design?

What can go wrong when applying classical methods to complex survey data?

What adjustments can be made to classical methods to accommodate for complex designs?

List of topics: Simple and Complex Sample Designs,

Target Population, Randomization Distributions: Model-Based vs. Design-Based Estimation, Non-Response Issues, Examples. Variance Estimation under Complex Designs: Design Effects, Variance Estimation with a Small Number of PSU's, Confidence Intervals and Hypothesis Testing, Examples. Classical Regression Assumptions and Methods: To Weight or Not To Weight When Fitting Models to Survey Data, Examples. Tests of Independence and Homogeneity, Multivariate Design Effects, Examples. A few words on Other Related Topics: Logistic Regression, Case-Control Study, Statistical Packages.

Related book: Analysis of Complex Surveys edited by C. J. Skinner, D. Holt and T. M. F. Smith, Wiley, 1989.

Workshop W4: Matrix Methods for Statistics

Montreal: Saturday, July 15-Sunday, July 16, 1995

Talks are expected to cover the following topics: biased estimation in linear models, bounds for matrix sums, bounds for singular values, Campbell-Youla inverse, canonical correlations, Cochran's Theorem, control theory, convex matrix functions, correlation matrices, matrix convexity, econometrics, generalized inverses, generalized least squares, Kantorovich inequality, Kiefer ordering, least squares with missing observations, Marcus-de Oliveira conjecture, matrix inequalities, matrix special functions, mixed model of the analysis of variance, modified eigenvalue problems, multidimensional scaling, multivariate statistical analysis, orthogonal projectors, partially generalized least squares, positive definite matrices, predictive g-inverse, seemingly unrelated regressions, sexy matrices, shorted operators, stochastic matrices, and tensor products.

This Workshop is the fourth in a series. The previous three Workshops were held as follows: (1) Tampere, Finland: August 1990, (2) Auckland, New Zealand: December 1992, and (3) Tartu, Estonia: May 1994. **The 5th Workshop in this series is scheduled to be held in Dunedin, New Zealand, in late August 1995 (as a satellite to the A. C. Aitken Centenary Conference)** and the 6th in Shrewsbury, England, August 1996.

Note: the above announcement have been heavily edited from copious copy supplied by George Styan. I have the original detailed announcement which I would be happy to email to anyone interested in attending the conference or a satellite workshop. -Editor [maj@waikato.ac.nz].

Commonwealth Statisticians' Conference

From 6 to 15 March 1995, Statistics New Zealand hosted the Conference of Commonwealth Statisticians in Wellington. This was the 12th conference and the second time New Zealand has staged the event (the first being in 1960). The first Commonwealth statisticians' conference was held in 1920, and since 1951 it has been a five-yearly event.

The eight-day international conference was officially opened by Her Excellency Dame Catherine Tizard, Governor-General of New Zealand and was attended by 58 delegates from 36 Commonwealth nations. The 1995 conference welcomed both South Africa and Namibia back to the Commonwealth assembly. Also in attendance were five observers from international organisations: the South Pacific Commission, Eurostat, the United Nations Food and Agricultural Organisation, the United Nations Statistical Division and the International Monetary Fund.

Logo of the XII Conference of Commonwealth Statisticians, Wellington 1995.

The aim of the conference is to provide personal contact, fellowship and technical assistance between Commonwealth countries. The conference provided a forum for:

- Highlighting particular problems impeding statistical development and exchanging views about possible solutions to these problems.
- Facilitating the establishment of personal contact and rapport between the statistical personnel in the developing countries and their colleagues from the developed countries.
- Drawing on the experience of more developed members of the Commonwealth for possible application of new statistical techniques and methods.

Recent conferences have focused on the needs of developing countries to set up effective national statistical systems.

Seven sessions were held dealing with macroeconomic statistics; population and censuses; marketing and dissemination; environmental statistics; statistics on special groups; technical co-operation; and management and planning statistical offices. Each session was allocated an organiser who opened the proceedings with an overview of the papers prepared for that session and initiated a group discussion on the subject. The conference was a resounding success, with all delegates agreeing it was a valuable opportunity to meet with overseas counterparts and representatives of international organisations. An important outcome of the conference was the number of meetings and discussions that occurred between the delegates outside of the conference programme.

At the closing session of the conference, Botswana offered to host the XIIIth Conference of Commonwealth Statisticians to be held in 2000. Suggested topics for the next conference included measuring the informal sector; tourism; income adequacy and poverty; the cost of conducting household surveys and multi-subject surveys; and technology and communication in modern statistical offices.

During their stay, the delegates were hosted to some of the North Island's premier tourist venues, including a Martinborough vineyard tour; Huka Falls; Agrodrome; Whakarewarewa; and the gondola and luge at Rotorua.

Proceedings of the 1995 conference are available from Statistics New Zealand.

A very small subset of the International Calendar of Statistical Events

Edited by George P. H. Styan, McGill University, Montréal

(I have selected out items with a bias towards what I know of local interests, thanks to Sue Wilson, Editor, IMS Bulletin and George for making this available.)

The ' identifies IMS meetings, + new or updated entries &) the (last) registration/abstract submission deadline date. For further information please contact the address(es) in square brackets: e-mail (internet) addresses appear in small caps; FAX (& telephone) numbers begin with the country-city codes in parentheses.

Please send additions (preferably using the format as followed below) & (any) corrections to George Styan by e-mail to MT56@MUSICA.MCGILL.CA or to STYAN@MATH.MCGILL.CA or by FAX to (1-514) 398-3899 (e-mail preferred). *[But check the full calendar in the IMS Bulletin before contacting George. -Ed.]*

1995

May 29–June 1: Gadong, Brunei Darussalam. International Conference on Mathematical Modelling (Physical, Biological, Engineering & Social Systems). Universiti Brunei Darussalam. [Dept. of Mathematics, Universiti Brunei Darussalam, Gadong 3186.]

' June 12–14: Waterloo, Ontario. 2nd IMS/SPES Spring Research Conference on Statistics in Industry & Technology. Institute for Improvement in Quality & Productivity, Univ. of Waterloo. [CFJ Wu, JEFFWU@STAT.LSA.UMICH.EDU; Institute for Improvement in Quality & Productivity, Univ. of Waterloo, Waterloo, Ontario N2L 3G1; SRC95@MATH.UWATERLOO.CA, FAX (1-519) 746-5524.]) May 31, 1995. See The IMS Bulletin 24(1995):143–165.

June 19–23: Galway, Ireland. Statistical Climatology: 6th International Meeting. [IG O'Muircheartaigh, Mathematics Dept., Univ. College, National Univ. of Ireland, Galway; tel. (353-91) 24411.]

June 19–23: Singapore. Stochastic Processes & their Applications: 23rd Conference. Bernoulli Society for Mathematical Statistics & Probability. [LHY Chen/JH Lou, Dept. of Mathematics, National Univ. of Singapore, Lower Kent Ridge Road, Singapore 0511; FAX (65) 779-5452, MATSPA95@LEONIS.NUS.SG.] See The IMS Bulletin 23(1994):698.

' June 26–28: Stanford, California. IMS Western Regional Meeting & International Biometric Society/WNAR Summer Meeting. [RA.DAB@FORSYTHE.STANFORD.EDU; D Bloch, Stanford Univ.]) 1 February 1995. See The IMS Bulletin 24(1995):168–183.

June 26–30: Canberra, Australia. Workshop on Wavelet methods in Mathematical Analysis, Statistics & Computation. Australian National Univ. [Wavelets '95, Centre for Mathematics & its Applications, Australian National Univ., Canberra ACT 0200; FAX (61-6) 249-4675/5549, WAVELET@MATH.ANU.EDU.AU.] See The IMS Bulletin 24(1995):207.

' July 5–8: Kingston, Ontario. 2nd IMS North American New Researchers' Meeting. Queen's Univ. [E Chow, Dept. of Math. & Statistics, Queen's Univ., Kingston, Ontario K7L 3N6; FAX (1-613) 545-2964, CHOW@EDC.MAST.QUEENSU.CA.] See The IMS Bulletin 24(1995):184.

July 8–9: Hobart, Tasmania, Australia. MATHEMATICA in Mathematics Research & Education. [D Fearnley-Sander, Dept. of Mathematics, Univ. of Tasmania, Hobart, Tasmania 7001.]

' July 8–9: Montréal, Québec. Workshop on New Directions in Probability: Theory & Simulation of Spatial Stochastic Processes. Le Centre Sheraton Hôtel. [D Griffeath, Dept. of Mathematics, Univ. of Wisconsin, Van Vleck Hall, 480 Lincoln Drive, Madison, WI 53706-1388; FAX (1-608) 263-8891, GRIFFEAT@MATH. WISC.EDU.] See The IMS Bulletin 24(1995):195.

' July 9: Montréal, Québec. Categorical Data Analysis Workshop featuring Gary G. Koch. Le Centre Sheraton Hôtel. [C Legault, Dept. of Public Health Services, Bowman Gray School of Medicine, Medical Center Boulevard, Winston-Salem, NC 27157-1063; FAX (1-910) 716-5425, LEGAULT@PHS.BGSM.WFU.EDU.] See The IMS Bulletin 24(1995):196–197.

' July 9: Montréal, Québec. Statistical Analysis of Complex Survey Data featuring David Binder & Pierre St-Martin. Le Centre Sheraton Hôtel. [CA Patrick, International & Professional Relations Division, Statistics Canada, RH Coats Building 25-F, Tunney's Pasture, Ottawa, Ont. K1A 0T6; FAX (1-613) 951-1231; PATRCHA@STATCAN.CA.] See The IMS Bulletin 24(1995):197–198.

' July 9–13: Montréal, Québec. Institute of Mathematical Statistics (58th) & Statistical Society of Canada (23rd): Joint Annual Meeting. Le Centre Sheraton Hôtel. [Program Chair: CA Field, FIELD@CS.DAL.CA; Local Arrangements Chair: GPH Styan, MT56@MUSICA.MCGILL.CA.]) 1 February 1995. See The IMS Bulletin 24(1995):185–195.

July 10–14: Dublin, Ireland. 9th International Conference of GENSTAT Users. [J Connolly, Dept. of Statistics, Univ. College, Dublin 4; JCONNOLL@ IRLEARN.UCD.IE.]

July 10–14: Innsbruck, Austria. 10th International Workshop on Statistical Modelling. [GUH Seeber, Institut für Statistik, Univ. Innsbruck, Innrain 52, A-6020 Innsbruck; FAX (43-512) 507-2851, GILG.SEEBER@ UIBK.AC.AT.]) January 15, 1995. See The IMS Bulletin 23(1994):693.

' July 15–16: Montréal, Québec. 4th International Workshop on Matrix Methods for Statistics. Le Centre Sheraton Hôtel. [GPH Styan, MT56@MUSICA. MCGILL.CA.]) 15 May 1995. See The IMS Bulletin 24(1995):197–198.

July 15–18: Montréal, Québec. Fields Institute & CRM Joint Workshop on Nonlinear Dynamics & Time Series: Building A Bridge Between the Natural & Statistical Sciences. Centre de recherches mathématiques (CRM). [J Motts, Fields Institute, 185 Columbia Street West, Waterloo, Ontario N2L 5Z5; FAX (1-519) 725-0704, BRIDGE@FIELDS. UWATERLOO.CA.]) 15 June 1995. See The IMS Bulletin 24(1995):199.

July 21–23: St. Petersburg, Russia. International Conference on Statistical Education. [I Elisseeva, St. Petersburg Univ. of Economics & Finance, 30/32 Griboedov Kanal, 191023 St. Petersburg; FAX (7-812) 247-30-45.]

+ July 26–30: Tokyo, Japan. Japan-Russian Symposium on Probability & Mathematical Statistics. [M Fukushima: FUKU@SIGMATH.ES.OSAKA-U.AC.JP.]

' August 13–17: Orlando, Florida. Joint Statistical Meetings: American Statistical Association (ASA) & International Biometric Society (ENAR/WNAR), with IMS & Statistical Society of Canada (SSC). Walt Disney World Dolphin & Walt Disney World Swan. [ASA, 1429 Duke Street, Alexandria, VA 22314-3402; MEETINGS@ASA.MHS. COMPUSERVE.COM, FAX (1-703) 684-2037.]) 1 February 1995. See The IMS Bulletin 24(1995): 200–201.

August 17–19 Seoul, Korea. Statistical Methods & Statistical Computing for Quality & Productivity: International Conference. [SH Park, Dept. of Computer Science & Statistics, Seoul National

Univ., Shinrim-dong, Kwanak-ku, Seoul 151-742; PARKSH@KRSNUCC1.BITNET, FAX (82-2) 883-6144.] See The IMS Bulletin 24(1995):211.

August 21–29: Beijing, China. International Statistical Institute: 50th Biennial Session. Beijing International Convention Center. [ISI Permanent Office, 428 Prinses Beatrixlaan, Postbus 950, NL-2270 AZ Voorburg; FAX (31-70) 38-60025, ISI@CS.VU.NL.] See The IMS Bulletin 23 (1994):621–624.

August 28–September 1: Dunedin, New Zealand. A. C. Aitken Centenary Conference, 3rd Pacific Statistical Congress & New Zealand Statistical Association Annual Meeting. Actuarial Mathematics, Numerical Methods & Statistics. Univ. of Otago. [BFJ Manly, Dept. of Mathematics & Statistics, Univ. of Otago, PO Box 56, Dunedin; CASM@MATHS.OTAGO.AC.NZ, FAX (64-3) 479-8427.] See The IMS Bulletin 23(1994):696.

September 11–15: Milton Keynes, England. 5th European Course in Advanced Statistics: Longitudinal Data Analysis & Repeated Measures. [DJ Hand, Dept. of Statistics, The Open Univ., Walton Hall, Milton Keynes MK7 6AA; FAX (44-1908) 653744.]

September 17–21: Aussois, France. Research Workshop on Statistical Mixture Modelling. [C Robert, CREST-Laboratoire de Statistique, INSEE Timbre J037, 3 Avenue Pierre Larousse, F-92241 Malakoff Cedex; MW@ISDS.DUKE.EDU.]See The IMS Bulletin 24(1995):209.

September 19–20: Hatfield, Herts., England. Control of Industrial Processes Conference. [Business School Development Unit, 2nd Floor, Business Link, 45 Grosvenor Road, St. Albans AL1 3AW.]

September 25–27: Coolangatta, Gold Coast, Queensland. Australasian Biometrics Conference. Themes: Agricultural Statistics, Medical & Health Statistics, Practical Applications of Markov Chain Monte Carlo & Environmental Statistics [KE Basford, Dept. of Agriculture, Univ. Queensland, Brisbane 4072; K.E.BASFORD@ MAILBOX.UQ.OZ.AU, FAX (61-7) 365-1177.]

November 17–18: Ames, Iowa. Statistics & Biometry: A conference in honor of Herbert A. David. [DL Isaacson, Dept. of Statistics, Snedecor Hall, Iowa State Univ., Ames, IA 50011-1210; FAX (1-515)-294-4040, DLI@IASTATE.EDU.] See The IMS Bulletin 24(1995):95.

November 27–December 1: Perth, Western Australia. IEEE International Conference on Neural Networks. [ICNN'95 Conference Management, Centre for Intelligent Information Processing Systems, Univ. of Western Australia, Nedlands, WA 6009; ICNN95@EE.UWA. EDU.AU.]

December 6–9: Bangi, Selangor, Malaysia. 6th International Conference on Statistical Methods for the Environmental Sciences. Universiti Kebangsaan Malaysia. [AH El-Shaarawi, National Water Research Institute, P.O. Box 5050, Burlington, Ontario L7R 4A6; FAX (1-905) 336-4989, U101@CS.CCIW.CA.]

1996

+ June 1–3: Edinburgh, Scotland. 3rd International Conference on Forensic Statistics. Univ. of Edinburgh. [CGG Aitken, Dept. of Math. & Stats,Univ.of Edinburgh, King's Bldngs, Mayfield Rd, Edinburgh, EH9 3JZ; ICFS@MATHS.ED.AC.UK, FAX (44-131) 650-6553.]

June 3–5: Dallas/Fort Worth, Texas. 4th International Applied Statistics in Industry Conference. International Statistical Applications Institute [T Caldwell, ISAI, 2183 South Cooper Court, Wichita, KS 67207-5834; TRACY.CALDWELL@ ACGINC.COM, FAX (1-316) 689-6889.]

July 1–5: Amsterdam, The Netherlands. 18th International Biometric Conference: IBC-96. [P Koopman, Biometric Society/ Netherlands Region; FAX (31-2940) 13906.]

July 7–12: Sydney, Australia. Sydney International Statistical Congress & 13th Australian Statistical Conference: Quality & Environment. Sheraton-Wentworth Hotel. [NI Fisher, Division of Mathematics & Statistics, CSIRO, Locked Bag 17, North Ryde NSW 2113; FAX (61-2) 325-3200, SYDNEY96@SYD.DMS.CSIRO.AU.]

' July 8–10: Sydney, Australia. IMS Special Topics Meeting. Contemporary Nonparametrics; Computer Science & Statistics: 28th Symposium on the Interface. Sheraton-Wentworth Hotel. [NI Fisher, Division of Mathematics & Statistics, CSIRO, Locked Bag 17, North Ryde NSW 2113, FAX (61-2) 325-3200, SYDNEY96 @SYD.DMS.CSIRO.AU.]

' August 4–8: Chicago, Illinois. Joint Statistical Meetings: IMS (59th Annual Meeting), American Statistical Association (ASA) & International Biometric Society (ENAR/ WNAR). Hyatt Regency. [MEETINGS@ASA.MHS.COMPUSERVE.COM; ASA, 1429 Duke Street, Alexandria, VA 22314-3402; FAX (1-703) 684-2037.]

Animation in the JSE (continued from page 16.)

The software:

If this subject is completely new for you, take a look at the following file--it gives a good overview of software tools available for animations:

ftp to
`ftp.crs4.it`

the path and filename is:
`/mpeg/programs/00-INDEX.TXT`

If you already know what software you want and need, ftp to `ftp.ncsa.uiuc.edu`
and explore these directories and files:

```
/Web/Mosaic/Unix/README.Mosaic

/Web/Mosaic/Unix/viewers/mpeg-play-2.0.tar.Z

/Web/Mosaic/Windows/viewers/mpeg32h.zip

/Web/Mosaic/Mac/Helpers/sparkle-231.hqx
```

Hope to hear from those of you who want to try this out!
[Me too! - Ed.]
Please send comments on articles/data etc. appearing in the JSE to jse-talk@jse.stat.ncsu.edu

Tim Arnold


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---------------------------------------------
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Raleigh NC 27695
fax: 919 515 7591
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Local News

University of Auckland

Vistors over the summer included David Brillinger from Berkeley, J. N. K. Rao from Carleton University and Josef Steinebach from Marburg We also have a new PhD student, Odundo Nyangoma, from the University of Nairobi in Kenya. He will be working with George Seber on log-linear modelling in capture-recapture problems

Chris Triggs and Renate Meyer are both back from a summer spent overseas, Chris at the University of Washington in Seattle and Renate at the University of Tubingen in Germany.

We now have a World Wide Web (WWW) server up and running. This service allows remote web users to access information on the Statistics Department in general, research interests, staff information and email and telephone numbers, scholarship information, and some wonderful photographs and staff and activities. In the future we hope to add the facility to access the latest publications from staff members. To access this server use a WWW browser such as Netscape or Mosaic, with the URL

`http://www.stat.auckland.ac.nz`

Alastair Scott

Waikato

Murray Jorgensen is back from six months leave spent at McGill, Auckland and La Trobe Universities. Fay Sharples was farewelled at a function this February. She is leaving shortly on a holiday to the UK. Lyn Hunt has been appointed as a Senior Tutor and has a key role in organising tutorials for first year statistics courses. Her efficiency in doing this has been much appreciated by the lecturers teaching first year classes (ie, all of us!) Jeff Knowlton visited us in March, mainly in connection with his DPhil work, but we seized the opportunity to get him to talk to us about his work as an industrial statistician. Ray Littler has been appointed Pro-Dean of the School of Computing and Mathematical Sciences which he does in parallel with being Director of the Waikato Centre for Applied Statistics [WCAS] and too many other things to mention.

Weekly reading group meetings are in progress at Ruakura jointly with the Ruakura and LIC statisticians. The theme of "Repeated Measures" has been bent a little towards "Hierarchical Generalized Linear Models"in preparation for the visit of John Nelder.

The Board of the School of Computing and Mathematical Sciences, subject to the approval of the University Council, has approved the creation of a Department of Statistics which will bring together the statisticians in the Department of Mathematics and Statistics and those in WCAS. Planning is under way for a transition to the new department in January 1996. WCAS will continue as a Centre within the new Department.

Murray Jorgensen

PS Andy Begg writes that Cliff Konold who holds joint positions at the University of Massachusetts at Amherst and at TERC at Boston is a world renowned expert in statistics and probability education. He is visiting the Centre for Science, Mathematics and Technology Education Research at the University of Waikato on 12 and 13th of April and the Mathematics Education Unit at Auckland University from 19 to 28 April. He is giving two seminars at Auckland during his stay.

20 April (Mathematics Dept, Rm 222, 4pm) "Conceptions of Probability among College-aged students"

27 April Science education Seminars, Fisher Building, 18 Waterloo Quadrant, 5pm) "Faces in the clouds: Why noise is often taken for signal".

University of Canterbury

Dan Tandberg , Professor in the medical school at the University of New Mexico is spending a six month sabbatical here learning about Bayesian statistics and applications thereof to medical problems.

Distinguished Professor Jim Berger , Mr Bayesian personified, from Purdue University will be here in July. Professor Bert Keats from Arizona State University , an expert in Reliability and Quality Control will be here May and June. Professor Wolfgang Polasek from Basel University , an expert in Bayesian economic multivariate methods will be here July and August

Frank Lad has returned from study leave empowered with a fresh spirit and a book really nearing completion. Stage one stats has 730 students and Easaw Chacko is in charge this year implementing EXCEL as the preferred package. Having outstanding success.

Stage 3 has 30 in Bayesian Statistical Decision Theory. Two papers in Stage 2 have over 50 students in each. John Deely will be overseas presenting papers at ISI in Beijing and ISBA in Quaxaco, Mexico.

Murray Smith is about to hear loud bells, at least in principle and possibly elsewhere as well.

John Deely

AgResearch, Lincoln

David Baird is away from mid-March to mid-July on a Rothamsted Genstat Fellowship. He will be working on an "official" Windows version of Genstat, putting to good use what he has learned from writing his own prototype Windows version. While up north he will also attend the International Genstat Conference in Dublin.

Dave Saville talked at the Australasian Genstat Conference about his wish list of alterations concerning how Genstat treats contrasts in analysis of variance (for example, provision for nonorthogonal sets of contrasts). To his delight Roger Payne has already implemented some of his suggestions; these will be included in the next release of Genstat.

Dave and co-worker Graham Wood are currently biting their finger nails while their publishers, Springer-Verlag, ponder the destiny of their 90%-completed mini-book on the geometry of statistics.

Lesley Hunt works half-time for AgResearch and is currently spending some of the rest of her time studying for the Diploma of Secondary Teaching at Christchurch College of Education. If implemented well, the new maths curriculum will make mathematics classrooms more exciting places. However other things happening in education may well make this a very big "if". She has also had an interesting time catching up on some of the "gender and maths" literature.

Dave Saville

Garry Dickinson found this on the Internet somewhere. I fail to see anything funny in it at all, but it's the right size for this space. -Ed.

The juvenile seasquirt wanders through the sea searching for a suitable rock or coral to cling to and make its home for life. For this task it has a rudimentary nervous system. When it finds its spot and takes root, it doesn't need its brain anymore so it eats it. It's rather like getting tenure.

University of Otago

Russell Millar has been involved with MAF Fisheries to help determine the abundance of toheroa at Oreti Beach (the last one where toheroa open days still occur). He has also been working closely with the Marine Recreational Fisheries Working Group on the impact of recreational snapper fishing in the northern half of the North Island.

David Fletcher has just left for a year of sabbatical leave in Sydney.

Bryan Manly is feeling tired of workshops for a while after being involved in four so far this year, in Denver, Anchorage, Dunedin and at the Bodega Bay Field Conference in California. The last one did have the compensation of allowing him to taste a large number of Californian wines that are not usually readily available.

Work on the A.C. Aitken Conference is proceeding but the programme committee is not satisfied with the rate of presentation of papers. PLEASE SEND BRYAN MANLY AN EMAIL NOW IF YOU ARE PRESENTING A PAPER SO THAT SESSIONS CAN BE WORKED OUT AS SOON AS POSSIBLE.

Bryan Manly

Hugh's News

Hugh Morton writes that he is with the School of Exercise Science in the Faculty of Nursing and Health Sciences on the Gold Coast Campus of Griffith University as the Sir Allan Sewell Visiting Fellow until April 26. He is giving some workshops in research design and data analysis for the nursing postgrads, giving some seminars and special workshops for staff on similar topics (mainly repeated measures ANOVA, clinical trials and regression), and doing a review of the research design and statistics components of their degree programmes. He is also acting as a statistical consultant for many of the staff who are doing PhD's or other bits of research and who don't have access to a statistician who may be familiar with the clinical or biomedical settings they work in. His overall brief is to raise the awareness and level of research activity, by whatever means may be suitable, during his 10 week stay.

Massey University

Stephen Haslett arrived at the end of last year, and the new Applied Statistics Consulting Centre was launched with free drinks and nibbles on the 20th March. Bruce Dunning has moved from Massey's Learning Support Network to join us. Bruce has special responsibility for first year teaching. Cynical readers may see a common pattern in these two appointments. Are the Massey Statisticians contriving to relieve themselves of all the unpleasant chores of University life? Of course nothing could be further from our intentions. We expect that total Departmental effort will increase in these two important areas, but perhaps be a little less crisis ridden, a little more predictable and, particularly with consulting, a little more profitable.

Doug Timmer left for an unrefusable offer back in the States after little more than a year with us. We wish him well, together with Michelle and baby New Zealander Paul.

In February the Palmerston North campus hosted a Workshop on stochastic processes, taking advantage of Ralph Disney's (from Texas A&M University) stay with us. This small, specialist gathering was very worth while. Why do we not do more of this sort of thing?

Albany grows, and a very impressive new Study Centre is now in use, 1.2 km from the offices at Oteha Rohe. At 7.20 on a Monday morning a suspicious-looking fellow sneaks a PC and monitor into his car - its Barry McDonald preparing for a Minitab demonstration at his 8 a.m. lecture at the Study Centre. Rumour is that the university spent nearly $140k on electrical fittings and equipment in the Study Centre auditorium, but someone in admin vetoed buying a computer to run in it.

Albany now has (officially?) the most complex timetabling scheme on Earth, with lectures and tutorials at Oteha Rohe starting on the half-hour, at the Study Centre starting on the hour, and with everyone given half-an-hour in-between to fit 300 cars into 100 car-parks. Space for people is the main problem at Palmerston North, but Albany sees some benefits. Staff there are rejoicing at the Library's purchase of some of Dick Brook's old journals (JRSS etc) as a start to our reference collection. Dick was forced to sell because of being shunted into a smaller office.

Greg Arnold

Seminars:

Dr S Ganesh Minitab for Windows: A demonstration

Dr Josef Steinebach, University of Marburg, Germany
Invariance tools for renewal processes

As part of the stochastic process workshop:

Ralph Disney, Texas A&M University

Four problems in queuing

Ilze Ziedins, Auckland University

Loss networks - Asyptotics and control

David Harte, ISOR, Victoria University, Wellington
Dimension estimation for spatial point patterns with special emphasis on earthquakes

Mark Bebbington and Chin Diew Lai, Massey University
On non homogeneous models for volcanic eruptions

Animation in the JSE

This note from the Editor of the Journal of Statistical Education appeared in the EDSTAT-L discussion list and is reprinted with permission. -Ed.

Those of you who have a graphic browser for the World Wide Web may already know that the last issue (v3n1) of the JSE contained a computer animation as "Figure 1" in the Datasets and Stories article, "Teaching Statistics With Data of Historic Significance: Galileo's Gravity and Motion Experiments." The animation demonstrates an experiment in which Galileo rolled a ball down a ramp with a horizontal shelf at the end to study the horizontal distance traveled by the ball.

If you have Mosaic or Netscape and haven't discovered the Web version of the JSE, open this URL:

`http://www2.ncsu.edu/ncsu/pams/stat/info/jse/homepage.html`

If you do have the browser, but not the software to view animations, check out the ftp servers listed at the end of this message.

I thought some readers and prospective authors might be interested in the steps involved in creating an animation as an inclusion to a figure. I claim no particular expertise in this area, but here is a list of what I did to create the animation:

Create the initial graphic (to become the first frame of the animation) and convert it to a "tga" Targa graphics format file. It doesn't matter much what software you use to create the frames, which are just plain old graphic files. You just have to output them as tga files or convert them to tga files.

Create the rest of the frames by re-doing the initial frame, but with some parameters changed. I changed the viewing angle, the ball's position and the lighting as I created the frames. You may want to write a batch or script file to create these frames for you

Execute the program and get a bunch of tga files which will become frames of the animation.

Run an mpeg encoder on the tga files, creating an mpg file (an mpeg animation).

What you need is:

(a) software to create a graphics file, either in tga format or if not, then 1.1 software to convert your graphics into tga format.

(b) patience to create the several graphics frames needed for the animation. The animation in the datasets article was about 98 frames.

(c) an mpeg encoder to take the tga files and create a single animation.

(d) an mpeg player to view your animation.

Continued on page 13.