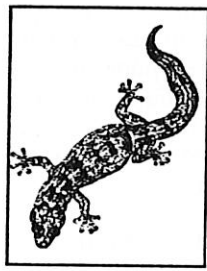


Lisa Pl note p. 7. #/c 27/8

CALM LIBRARY ARCHIVE
NOT FOR LOAN

RESEARCH NEWS

The newsletter of the Research Division of the Department of Conservation and Land Management



Editor:
Christine Farrell
Wildlife Research Centre
PO Box 51 Wanneroo WA 6065
Telephone: 4055 105

No 6/91

August 1991

Cover Story

The wreck of the Barque Stefano off the north west coast of Australia in 1875.

Gustave Rathe. 1990.

Hesperian Press. P.O. Box 317 Victoria Park, W.A. 124 pages.

I recently came across this very interesting book which others might also enjoy reading. Despite the title only Chapters 1 & 2 deal with the wreck. The rest of the book is an account of the adventures of the survivors. The bulk of it is an annotated translation of a manuscript written in Italian which gives a first hand account by one of the two people who were eventually returned to ? "civilisation".

The Stefano went down off Point Cloates on the 26 October 1875. The ten survivors who made it ashore wandered the coast south nearly to the mouth of the Gascoyne. By the end of January 1876 their number had dwindled to two. However they were saved by a group of Aborigines who took them north to the cape and then into Exmouth Gulf where a seafaring antecedent of Wilson Tuckey picked them up on 17 April 1876.

The book gives a remarkable insight into the daily life of the Aboriginal peoples of the coastal Gascoyne and Norwest Cape area.

Almost all animal food was marine; shellfish, crayfish and fish. There is a good account of a dugong being captured as well as of turtle hunts and turtle-egg feasts. The only terrestrial mammal they ate was a dingo (and the white fellows weren't allowed any, despite longing for red meat, because the aborigines had already learned that white fellows don't eat dog! Nevertheless they were allowed/expected to participate in the ceremonial consumption of a dead infant!!)

The Aborigines ate birds, lizards and snakes but they also carried pet snakes with them. Kangaroos don't rate a mention, live or in the cooking fire, in the six months ordeal, despite this being the first time the sailors had ever set foot on Australia. Roos are certainly abundant on parts of that coast today.

There are accounts of Aborigines lighting cooking and signal fires, but there is no mention of burnt country or anything more extensive than a bonfire or a signal smoke.

The Aborigines seemed to stay on the coast where they followed good footpaths. Despite sticking to the sea and depending on it for tucker, they did not seem to have any sort of boats of their own. However they were proficient with two small Malay craft, complete with bamboo fittings, and they managed to sail a 25 foot European boat which they took on a hair-raising trip to the Muirons.

Wildlife (food) was much more abundant on the island than on the mainland. The sailor thought that this was because the Aborigines had not been able to go there before they got the boat. On the island they caught Crested Pigeons with ease because the birds had no fear of man.

There may be some errors in the detail of dates and of interpretation of geographical detail but there is value for historians and anthropologists as well as scientists in Marine, Fauna and Fire Programs and land managers in the Ningaloo and Cape Range area. The things that are not mentioned are almost as interesting as the things that are mentioned.

I have asked our Library to get a copy, but it is also available in the State Libraries (at least I found it in the Westfield Library).

Tony Start.

DEADLINE FOR	ISSUE	DEADLINE	DISTRIBUTION
NEXT ISSUE	SEPT 91	23 SEPT 91	OCTOBER 91

Extract of RDPG Minutes from Meetings held in June 1991

Budget

Andrew Burbidge complimented the Division on the way that they have handled the cuts over the last financial year especially considering that the Division had a 13 1/2% cut off our total budget. There may be a possible saving out of Executive and it was agreed that it could be split between each portfolio towards the end of the financial year.

Overtime Budget

The Division did start off very badly but staff have been working hard to offset this and there are no foreseeable problems.

Research Centre Managers to contribute to Research Plan

It was decided at the 1991 Retreat that Research Centre Managers should contribute to the Research Plan and R Sokolowski was asked to prepare a proposal for inclusion in the 1991/92 Research Plan.

Miller Research Fellowship Awards

Steve Hopper informed RDPG of the Miller Research Fellowship Awards. Individuals/Candidates are nominated for the Miller Research Fellowship Awards by the science faculty at the University of California and by a worldwide panel of scientists. The purpose of the Fellowship program is to bring to Berkeley young scholars of great promise and to encourage the free pursuit of their research. It was agreed to place a copy of the brochure in Research News and for Steve Hopper to be the contact person if any staff are interested in obtaining further details of the above awards.

Communications Plan

It was generally felt that the Research Division should have a Communication

Plan to explain their activities and to define a message both internally and externally. RDPG agreed that an ad hoc working group be set up to look at outlines for a Communication Plan.

Teaching of Biotechnology/Molecular Biology

S Hopper attended a course at the University of WA to discuss the needs in Biotechnology.

Sandalwood Research Review Meeting

CALM, the Sandalwood Research Institute and the Sandalwood Export Committee organised a meeting to review sandalwood research and to discuss future directions. It is proposed to hold a smaller meeting of key personnel to finalise agency roles and co-ordination of research effort, directions and funding.

Review of PC-Statistical Packages

RDPG agreed to the recommendations in M Williams and Y Woods' report that Systat be purchased to replace SAS as the Research Division's standard PC statistics package.

Review of the Use of Statistical Methods

The above review was submitted to RDPG for their consideration and endorsement of the recommendations. It was agreed that a questionnaire be circulated to all Research Scientists to determine those areas of statistical methodology in which they feel they need training or revision. The RPP form will also be amended to place greater emphasis on matching specific methods of analysis to the aims of the project.

Long Service Leave Salaried Officers

Human Resources circulated the above list recently which indicated the salaried officers who either currently have an entitlement to LSL or who will accrue an entitlement before 30 June

1992. Portfolios were asked to ensure that staff were made aware of the list.

R & D Funding and CRC success

An article (with a graph) was recently given to RDPG for information indicating the poor success rate of Western Australia in receiving Commonwealth Funding. CALM was certainly aware of the above as is the State Government.

Guideline No 10 - Scientific Ethics and Etiquette

A new guideline on the above is currently being prepared, when finalised it will be circulated for all Research Scientists to include in their Staff Guidelines.

Planning of Research Projects

The Research Project Plan form is currently being updated and once finalised, copies will be sent to all Research Centre Managers.

Research Plan

Staff have been asked to contribute to the Aim and Primary Objectives of the Division.

RDPG meetings at Dwellingup and Manjimup once a year

It was agreed at the Retreat that RDPG meetings will be held at Dwellingup and Manjimup once a year. Therefore, it was decided that the September/October RDPG meeting is to be held at Manjimup Research Centre staying overnight. It was proposed that Andrew Burbidge could also give a seminar for CALM staff in the evening.

Improving Vegetation Workshop

It was agreed by RDPG that Ian Abbott chair the above workshop.

**Next RDPG meeting will be at the
Herbarium on 15 August 1991 (these
minutes will be in the September
edition of Research News.)**



EXECUTIVE DIRECTOR'S POST GRADUATE SCHOLARSHIP

Applications for this scholarship should reach Dr Andrew Burbidge, Director of Research, by 27th September 1991.

Applicants should refer to Policy Statement No. 36 when completing their application. It will be necessary to provide full details of the intended study program including any related costs and an outline of the units within the award.

The Director of Research will then forward his recommendations to the Executive Director by 18th October.

(Please note there are no application forms)

NEW FIRE RESEARCH PROGRAM LEADER

Dr Gordon Friend of Woodvale Research Centre became Program Leader for Fire Research on July 1. Neil Burrows has provided able leadership over several years. On behalf of all Fire Research program members and others in Research Division, I would like to extend a warm thanks to Neil for his contribution as Program Leader. Fire Research remains a hot topic, I wish Gordon well in his new role.

Steve Hopper

ACTING ARRANGEMENTS

Lachy McCaw has been seconded to Crawley from August 5th to October 31 (inclusive).

Grant Wardell-Johnson will be Acting Research Centre Manager during this period.



THE RESEARCH DIVISION WELCOMES CHANG SHA FANG

The Level 5 Collections Manager, Chang Sha Fang, commenced duties at the Herbarium on Monday 15 July.

Chang Sha is a graduate of the University of Western Australia where he gained an M.Sc. in Plant Pathology. He has worked as a Research officer in Agricultural Science at the University of Western Australia as well as in government service in agriculture in Singapore and Western Australia. Before joining the W.A. Department of Agriculture, Chang Sha managed the activities of Floratechnics Pty Ltd.

Chang Sha has had considerable experience in managing technical staff and will transfer to CALM from the Department of Agriculture. For the past seven years he has worked in the Plant Pathology Branch on research programs studying plant fungal pathogens.

The Collections Manager will be responsible for technical aspects of curation as leader of the Herbarium Services Program and will be responsible for implementing the decisions relating to the curation of the State Collection agreed to at the Herbarium review. Chang Sha will also be responsible for the technical management of the Herbarium Centre which will involve co-ordination of the use of facilities and equipment as well as supervision of relevant cost centre budget items.

Jim Armstrong

RESEARCH TECHNIQUES

Training Courses & Workshops

Training courses and workshops on softwares supported by the Division will be held regularly at the major research centres. A timetable covering the period from August 1991 through to April 1992 is now available at each centre.

Those interested should contact either the person nominated to conduct the course or the R.T. representative at the centre. If the dates are not suitable, alternative dates may be organised.

For it to be worthwhile to conduct a course, there should be around six attendees. If the number of enrolments is too small, the course will be rescheduled.

Attendees will be expected to bring their own computers. You may have to beg, borrow or steal and if this does not work, see the R.T. rep. (god?) for alternative arrangements.

Mike Choo

EL CHEAPO PC AVAILABLE

Hurry, hurry... there could be an NEC POWERMATE II with maths co-processor, extended memory and oodles of disk space available at a giveaway price of \$1200. See N. McKenzie for details.

PS If you twist his arm he might even include some software.

WANTED - RELIABLE WEATHER station

Does anyone have a weather station and/or data logger gathering dust and without any prospect of an airing? If so, would you be willing to lend it to us for six months or so - we promise to return it in good condition and well exercised!! Please contact Ray Wills or Helen White at the Manjimup Research Centre - phone 097 711 988

PERTH ZOO "ENVIRO LINK" SERVICE

The Perth Zoo will launch a free information service for zoo visitors who wish to know how they can protect the natural environment. More than 5,000,000 people visit the Zoo annually. CALM has already provided the Zoo with some general information such as selected Resource Notes and brochures for Field Study Centres. The handling of saleable publications such as *Landscape* and relevant books, will be negotiated with the Zoo bookshop staff, once their current management review is complete.

Please contact Fiona Marr, (Community Education Officer, Corporate Relations Branch) if you think you could use this service.

Review of the use of statistical methods, CALM Research Division

By Matthew Williams

The following review was recently submitted to the RDPG for their consideration, and for endorsement of the recommendations. The following plan has been devised to address the shortcomings revealed by the review:

I will send a questionnaire to all Research scientists to determine those areas of statistical methodology in which they feel they need training (or revision). Responses to the questionnaire will enable me to determine what training courses are needed, and plan those which I am able to conduct myself.

A course on general linear models will be held as soon as practicable, hopefully within the next six months. I have a good idea of who should attend such a course, but if you wish to attend please let me know.

The RPP form will be amended to place greater emphasis on matching specific methods of analysis to the aims of the project. RPPs must provide sufficient detail to enable critical assessment of any proposed statistical analysis prior to commencement of the project. Thus, any questions on how the data should be analysed will be resolved during the planning phase of the experiment.

Summary

The statistical methods and "knowhow" of the Research Division were examined using three approaches.

First, externally published papers were examined for methodological correctness, and to gain an impression of the range of techniques employed within the Division.

Second, over a six month period all approaches to me for assistance with data analysis were recorded. This enabled an assessment of the level of assistance required.

Third, during my three year period in the biometrics section, those instances where incorrect statistical methods have been applied were noted.

Results indicate that for some scientists at least, poor knowledge of methods and consequent poor research design, may be hindering analysis and publication of research results.

In order to improve experimental methods within the Research Division, it is proposed that greater emphasis be placed upon the correct design of experiments, both by RDPG and research scientists. In particular, methods of analysis should be clear prior to the commencement of experiments. Additional data should be collected on the RPP form, for experiments involving the linear model. In order to address the apparent problems in the use of the linear model, external consultation should be sought to assist with training.

Introduction

In many areas of biological research, the application of statistical methods is critical to the interpretation of results. If these methods are applied incorrectly, the outcomes can be disastrous; not only is research discredited, but both the author's and the institution's reputations may suffer. Familiarity with methods and general principles are also essential for correct and efficient experimental design.

Within the Research Division, procedures are in place which attempt to ensure the correct design of experiments and use of methods. The principal vetting procedure is at the design stage, through assessment of Research Project Proposals (RPPs).

This study assessed the efficacy of this system, by examining the externally published work of the Division, by recording the work of the Biometrics section over a six month period, and by recording general impressions over the past three years.

For some work carried out by the Division, this study is irrelevant; such work does not involve the formulation of hypotheses, the design of experiments, or the performance of critical statistical tests. However, when such steps are involved it is essential that

they be performed correctly and efficiently. It is essential for the Research Division to ensure that research scientists design efficient, conclusive experiments.

Methods

I initially intended to examine the entire published output of the Research Division over the past five years. However, due to time constraints, I limited my examination to a sample of 24 externally published papers. This constituted the combined output of 14 Research Scientists, 9 Technical staff, and 10 non-Division authors. For each paper, the techniques used were recorded, along with my opinion as to whether the techniques had been used correctly.

For the period 1 June to 31 Dec 1990 I kept a log of all the assistance I gave to Research Division staff. This assistance was subsequently classified into general techniques, and whether the requestor required assistance at a level appropriate to their position. For example, while it may be reasonable for technical staff to require help in formulating null hypotheses or interpreting or using the t-test, this should not usually be necessary for Research Scientists.

Results and Discussion

Examination of externally published work (Table 1) revealed no evidence of any problems in statistical methods. With hindsight, this result was probably inevitable, as externally published papers are subject to review and should be at least of a reasonable statistical standard.

However, the record of requests for assistance (Table 2) revealed a contrary result; in the area of general linear models particularly, I encountered a remarkable lack of knowledge. These data are undoubtedly biased, because only those scientists seeking assistance have been sampled. Nonetheless, a problem clearly exists with at least some scientists, in methodological expertise.

Table 1. Application of statistical methods in published work by CALM research Division staff.

Technique	used appropriately	used inappropriately	unable to determine ¹
Correlation	1		
Linear regression	2		
Non-linear regression	2		
Multiple regression	2		
ANOVA	5 ²		
Multiple comparison procedure after ANOVA	1	3 ³	
ANCOVA	1		
GENERALIZED LEAST SQUARES AND LINEAR MODELS SUBTOTAL	14	3	
MANOVA	1		
Canonical discriminant analysis	1		
Clustering	3		
PCA			1
MULTIVARIATE MODELS SUBTOTAL	5		1
Chi-square	4	1	

¹: Unable to assess appropriateness, because of insufficient time to decipher the article

²: 2 cases where Mean Square Error not given.

³: Duncan's multiple range test; now considered to be invalid, but not necessarily so at the time of publication.

My general impressions over the past three years accord with the latter result. In well planned experiments, the question "how can the available data be analysed in order to test the hypothesis" should never be asked. Indeed, it is backward: what should be asked is "how can data be (efficiently) collected, in order to test the hypothesis". I believe that some scientists pursue the former course, devote little time to planning, and give scant regard to the methods or form of analysis. Examples should serve to illustrate:

(1) My help was sought in interpreting ANOVA results; on examination, I determined that a purportedly factorial design was in fact a mixed nested design, and that the analysis being performed was inappropriate. This experiment had been conducted without an approved RPP, and apparently with no checking of the design by a suitable person. (2) My help with analysis has been sought on a number of occasions, without the requestors having any aforeknowledge of suitable techniques. These experiments had been designed(?) with no apparent regard to the form (or even, I presume, the possibility) of subsequent analysis. The lack of any null hypothesis, or any clearly formulated or written research questions, indicates a poorly conceived or focussed research project.

Rarely has my help been sought with the design of experiments. Where it

has been, in an unacceptable number of cases this has been a short period (weeks or even days) before the experiment was to be put in place. This constraint enabled only minor modification to the proposed design. Further, I know of only two cases where consideration has been given to optimum sample sizes (in terms of cost or accuracy of results). Also, the question on the RPP form "How many degrees of freedom for error" is so often answered incorrectly, that it is part of the routine assessment of RPPs to correct it.

A number of explanations can be proposed for the discrepancy between the standards of statistical expertise as gleaned from publications, and the standards that I perceive amongst research staff generally. A model consistent with the available data is that work suitable for external publication is not being published because of a lack of statistical expertise.

Conclusions and recommendations

In order to address the deficiencies highlighted in this study, more emphasis must be placed on correct, efficient methodology. The existing system of assessing the design of experiments through the RPP, should be adequate provided it is adhered to. Currently, we are in a "catch-up" period with numerous RPPs being submitted

for work already in place. Once this backlog is cleared, scientists should be made aware of the necessity for correct design, and be prevented from commencing experiments prior to approval. They should also be encouraged to seek the assistance of the biometrician, in the experimental design phase.

However, research scientists must bear the responsibility for experimental design. In this way, scientists will of necessity need to examine and maintain their own methodological skills.

In the area of linear models particularly, in my opinion more information is needed than that currently requested on the RPP form. A 1-page appendix should be added to the RPP form for this purpose.

The Research Techniques program has a responsibility to improve the standards of research methodology through appropriate training. In the area of linear models, considerable expertise is available outside CALM. Such expertise includes practical advice (sample sizes, optimal designs etc.) generally not available within CALM. It seems appropriate that in the area of linear models, the current deficit in knowledge within the Research Division could be effectively addressed through training using external consultants.

Table 2. Requests for statistical assistance classified by requestor (technical officer/research scientist), assistance required, and appropriateness of request, 1 June - 31 December 1990.

	APPROPRIATE		INAPPROPRIATE	
	REQUESTOR		REQUESTOR	
	RS	TO/CO	RS	TO/CO
LEAST SQUARES AND LINEAR MODELS	3	7	6	2
MULTIVARIATE TECHNIQUES	2	-	-	-
OTHER TECHNIQUES	7	3	2	-

Lisa
↓

Key Ecological Concepts

The British Ecological Society celebrated its 75th Anniversary in 1987. The membership of the Society was asked to provide a ranked checklist of ecological concepts; 645 members responded, as follows:

J.M. CHERRETT

The most important fifty concepts in ecology

Rank	Concept
1	The ecosystem
2	Succession
3	Energy flow
4	Conservation of resources
5	Competition
6	Niche
7	Materials cycling
8	The community
9	Life-history strategies
10	Ecosystem fragility
11	Food webs
12	Ecological adaptation
13	Environmental heterogeneity
14	Species diversity
15	Density-dependent regulation
16	Limiting factors
17	Carrying capacity
18	Maximum sustainable yield
19	Population cycles
20	Predator-prey interactions
21	Plant-herbivore interactions
22	Island biogeography theory
23	Bioaccumulation in food chains
24	Coevolution
25	Stochastic processes
26	Natural disturbance
27	Habitat restoration
28	The managed nature reserve
29	Indicator organisms
30	Competition & the conditions for species exclusion (Gause)
31	Trophic level
32	Pattern
33	r and K selection
34	Plant animal/coevolution
35	The diversity/stability hypothesis
36	Socioecology
37	Optimal foraging
38	Parasite-host interactions
39	Species-area relationships
40	The ecotype
41	Climax
42	Territoriality
43	Allocation theory

44	Intrinsic regulation
45	Pyramid of numbers
46	Keystone species
47	The biome
48	Species packing
49	The 3/2 thinning law
50	The guild

I encourage research staff to think about how their research efforts/interests fit in the above list.

~~~~~  
Ian Abbott

Reference: Cherrett, J.M. 1989. Key concepts: the results of a survey of our members' opinions. In "Ecological Concepts: the contribution of ecology to an understanding of the natural world" (ed J.M. Cherrett), pp1-16. Blackwell, Oxford.



## KILLING FIELDS

With all the media comment about the killing of sharks off the (West) Australian coast, it is interesting to look at a few statistics about the numbers of animals we kill ourselves - or, more correctly, have others kill for us.

In 1988-89 the following were killed in Western Australia for "human consumption".

|                   |                       |
|-------------------|-----------------------|
| Cattle and calves | 458,000               |
| Sheep and lambs   | 3,345,000             |
| Pigs              | 503,000               |
| Meat chickens     | 26,687,000            |
| Other poultry     | 775,000               |
| Total             | 31.77 million animals |

### Staggering isn't it!

Source: Australian Bureau of Statistics (Western Australia) from their publication Facts and Figures 1991.

## PROGRAM OF LEAVE - SEPTEMBER 1991 TO JANUARY 1993

Amendment To School Holiday Information

**SCHOOL HOLIDAYS** (as verified by Education Department)

1991 Third term holidays  
28/9/1991 - 13/10/1991

1991/92 Christmas holidays  
19/12/91 - 27/1/1992

First term holidays  
11/4/1992 - 27/4/1992

Second term holidays  
4/7/1992 - 19/7/1992

Third term holidays  
26/9/1992 - 11/10/1992

1992/1993 Christmas holidays  
17/12/1992 - 01/2/1993

## STATUTORY PUBLIC HOLIDAYS

### PUBLIC SERVICE HOLIDAYS 1992 AND NEW YEAR 1993

Wednesday 1 January 1992  
New Year's Day

Thursday 2 January 1992  
Public Service Holiday\*

Monday 27 January 1992  
Australia Day

Monday 2 March 1992  
Labour Day

Friday 17 April 1992  
Good Friday

Saturday 18 April 1992  
Easter Eve\*

Monday 20 April 1992  
Easter Monday

Tuesday 21 April 1992  
Public Service Holiday\*

Monday 27 April 1992  
Anzac Holiday

Monday 1 June 1992  
Foundation Day

Monday 28 September 1992  
Queen's Birthday

Friday 25 December 1992  
Christmas Day

Monday 28 December 1992  
Boxing Day

Friday 1 January 1993  
New Year's Day

Monday 4 January 1993  
Public Service Holiday\*

\*These holidays do not apply to all public sector employees. They are applicable only to those employed under the Public Service Act and other government officers who have similar entitlements.

1 = highest ranked (447 members chose this)  
50 = lowest ranked (9 members chose this)

## SCIENTIFIC AND TECHNICAL PUBLICATIONS

*The following have recently been approved for submission for publication:*

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Authors: Bennett, I., Cahill, D., McComb, J., Stukely, M. and Crane, C.</p> <p>Title: The use of tissue culture in the breeding of <i>Phytophthora</i> resistant Jarrah (<i>Eucalyptus marginata</i>)</p> <p>For submission to: Conference paper for International Association for Plant Tissue Culture (Australian Branch)</p>                                                                                                                                 | <p>Authors: Algar, D. and Kinnear, J.</p> <p>Title: An efficient technique <i>et al.</i></p> <p>For submission to: Rabies Workshop, Bureau of Rural Resources</p> <p>Author: Friend, G.R.</p> <p>Title: "Nunjala"</p> <p>For submission to: Wildlife Australia Magazine</p> <p>Author: Friend, J.A.</p> <p>Title: Endangered Quenda</p> <p>For submission to: LANDSCOPE</p> <p>Author: Friend, J.A.</p> <p>Title: Karroun Hill : Paradise on the edge</p> <p>For submission to: Landscape</p> <p>Author: Rye B.L.</p> <p>Title: Pimelea and its close relatives (Thymelaeaceae)</p> <p>For submission to: Australian Plants</p> <p>Author: Abbott, I., Burbidge, T., Williams, M. Van Heurck, P.</p> <p>Title: Arthropod fauna of Jarrah foliage in Mediterranean forest of Western Australia</p> <p>For publication to: Aust Journal Ecology</p> | <p>Author: Farr, J.</p> <p>Title: Lerps, Bugs and Gum leaves</p> <p>For submission to: Landscape</p> <p>Author: Glossop, B.R. and Hanks, W.R.</p> <p>Title: Effect of hot-water soaking or freezing pre-treatments on drying rates of Jarrah and Karri</p> <p>For submission to: Forest Products Journal (USA)</p> <p>Author: Olsen, P., Fuller, P., Marples, T.G.</p> <p>Title: Pesticide-related eggshell thinning in Australian raptors</p> <p>For submission to: Emu</p> <p>Author: Forshaw, D. Palmer, D.G. Halse, S.A., Hopkins, R.M. and Thompson, R.C.A.</p> <p>Title: Giardia infection in straw necked ibis (<i>Threskiomis spinicollis</i>)</p> <p>For submission to: Australian Veterinary Research</p> |
| <p>Authors: Williams, M.R., Hay, R.W., Bollam, H.H., Atkins, A.F.</p> <p>Title: The life history of the Western Dark Azure (<i>Ogyris otanes</i> C. &amp; R. Felder) in the Stirling Range, Western Australia (Lepidoptera:Lycaenid ae)</p> <p>For submission to: Australian Entomological Magazine</p> <p>Author: Davison, E.M.</p> <p>Title: Impel rods are unsuitable for controlling rot in karri trees</p> <p>For submission to: WURC Technical Report 31</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

## RESEARCH PROJECT PLANS

*The following Research Project Plans have been approved for this month.*

- |                                                                                                                                                                                 |                                                                                                                                    |                                                                                                                                                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>No: 32/88</p> <p>Title: Fire effects on desert vertebrates - influence of fire season</p> <p>officer-in-charge: D. Pearson</p>                                               | <p>No: 37/88</p> <p>Title: Traditional Aboriginal fire used in the Western Desert</p> <p>Officer-in-charge: D. Pearson</p>         | <p>No: 39/91</p> <p>Title: Habitat use, diet and prey occurrence for migratory waders at Roebuck Bay and Eighty Mile Beach</p> <p>S A Halse</p> |
| <p>No: 33/88</p> <p>Title: The impact of fire and edaphic factors on the vegetation and flora of Queen Victoria Springs Nature Reserve</p> <p>Officer-in-charge: D. Pearson</p> | <p>No: 38/91</p> <p>Title: Survey of aquatic invertebrate fauna of south-western Australia</p> <p>Officer-in-charge: S A Halse</p> | <p>No: 40/91</p> <p>Title: Waterbirds and Limnology of lake Gregory</p> <p>Officer-in-charge: S A Halse</p>                                     |



## RESEARCH PROJECT PLANS ....Cont.

|                                                                                                                                                                   |                                                                                                                                                                                                     |                                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| No: 41/91<br>Title: A biological database for the Pilbara Region<br>Officer-in-charge: S van Leeuwen                                                              | No: 88/91<br>Title: Fire spread patterns in semi arid lands<br>Officer-in-charge: L. McCaw                                                                                                          | No: 96/91<br>Title: Taxaplot<br>Officer-in-charge: P. Gioia                                                  |
| No: 42/91<br>Title: Status distribution and habitat usage of the Red-tailed Phascogale ( <i>Phascogale calura</i> )<br>Officer-in-charge: J A Friend and G Friend | No: 89/91<br>Title: The effect time of application of quizalofop-ethyl (Assure) has on its efficacy in relation to reducing grass weeds in the Tuart National Park<br>Officer-in-charge: R. Fremlin | No: 97/91<br>Title: Register of Research Division Corporate data set<br>Officer-in-charge: P. Gioia          |
| No: 43/91<br>Title: Status of Chestnut Teal in Western Australia<br>Officer-in-charge: J A K lane                                                                 | No: 90/91<br>Title: Simulated herbivores on foliage of <i>Eucalyptus globulus</i> (manual defoliation)<br>Officer-in-charge: I Abbott                                                               | No: 98/91<br>Title: Database of Research project Plans<br>Officer-in-charge: M Choo                          |
| No: 52/91<br>Title: Effects of fire on plant species and communities at Tutanning<br>Officer-in-charge: A Hopkins                                                 | No: 91/91<br>Title: Effort of thinning on the growth and form of crop trees in a young regrowth Karri stand on a low rainfall site<br>Officer-in-charge: P Hewett                                   | No: 99/91<br>Title: TRAK - Animal radio tracking - utility, feasibility study<br>Officer-in-charge: P. Gioia |
| No: 75/91<br>Title: <i>Eucalyptus viminalis</i> family provenance trials<br>Officer-in-charge: R Mazanec                                                          | No: 92/91<br>Title: Wetland Monitoring<br>Officer-in-charge: J Lane                                                                                                                                 | No: 100/91<br>Title: SEDIT - a species editing utility<br>Officer-in-charge: P. Gioia                        |
| No: 76/91<br>Title: <i>Eucalyptus callophylla</i> seed collection and family provenance trials<br>Officer-in-charge: R. Mazanec                                   | No: 93/91<br>Title: Effects of foxes on Ground Parrot populations<br>Officer-in-charge: A H Burbidge                                                                                                | No: 101/91<br>Title: Networking PCs in Research Division<br>Officer-in-charge: P. Gioia                      |
| No: 87/91<br>Title: Comparison between <i>P. radiata</i> cuttings and seedlings on the Donnybrook Sunklands<br>Officer-in-charge: J. McGrath                      | No: 95/91<br>Title: Consolidating a State-wide Latitude/Longitude Map base<br>Officer-in-charge: P. Gioia                                                                                           | No: 102/91<br>Title: Declared and endangered fauna<br>Officer-in-charge: P. Gioia                            |
|                                                                                                                                                                   |                                                                                                                                                                                                     | No: 103/91<br>Title: HERBIE<br>Officer-in-charge: P Gioia                                                    |



## SEMINAR

Friday 6 September 1991

### **Non equilibrium processes in the maintenance of community stability - examples from alpine Tasmania and the lateritic uplands of Mt Lesueur**

presented by Dr Neil Gibson

The stability of community composition through time can be maintained through equilibrium processes (such as fine resource partitioning) or by non equilibrium processes (such as those found in stressed environments).

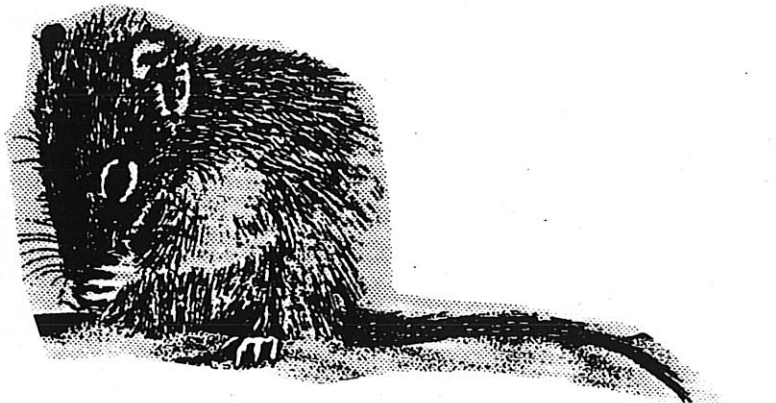
The community dynamics of an alpine cushion plant community in Tasmania will be compared to those of a heath growing on the lateritic uplands of Mt Lesueur.

Community dynamics in Tasmania were studied by growth measurement over a two period, analysis of permanent photopoint at a five year interval, by macrofossil analysis of a peat core and revegetation studies. Competition was found to an important factor only at the seedling stage in the alpine community.

After the first 12 months of growth studies at Mt Lesueur the role of competition remains equivocal. Further work is being carried out to elucidate its role in this community.

Venue: Wildlife Research Centre  
CALM  
Ocean Reef Road (near Joondalup Drive)  
WOODVALE

Time: 3.00pm





## **DRUPELLA WORKSHOP**

**21st-22nd November 1991  
PERTH, WESTERN AUSTRALIA**



**DEPARTMENT OF CONSERVATION & LAND MANAGEMENT  
RESEARCH TRAINING CENTRE  
50 HAYMAN ROAD, COMO**

### **CALL FOR PAPERS AND POSTERS**

The Western Australian Department of Conservation and Land Management, with financial assistance from the Australian National Parks and Wildlife Service, is convening a workshop on the predatory corallivorous muricid *Drupella* which has been responsible for extensive coral damage along the Ningaloo Reef Tract, North-West Cape, Western Australia.

The workshop is intended to bring together researchers and interested groups from around Australia, to review current research and to develop future directions for research and management of *Drupella*. The workshop will comprise presentations (of 30-45 minutes duration each) on a range of topics - including the reproductive biology, early life-history, population dynamics and management of *Drupella* - and open discussions.

- A three-day field-trip to Ningaloo, North-West Cape (at participants' own expense) is planned for the 18th-20th November 1991.
- A workshop proceedings will be produced - PLEASE send a 1-5 page summary of your presentation (in camera-ready form) to the co-ordinators by 1st OCTOBER 1991.
- Participants will be expected to arrange their own travel to Perth and Exmouth, all accommodation, meals and hire of diving equipment during the field-trip. Further information about transport and accommodation in Perth and Exmouth is available on request. Limited funds may be available to assist with the travel expenses of inter-state participants.

**PLEASE NOTIFY THE CO-ORDINATORS OF YOUR INTEREST IN ATTENDING THIS WORKSHOP BY COMPLETING THE ENCLOSED FORM AND RETURNING IT, BY 1st SEPTEMBER 1991, TO :**

Dr Stephanie Turner, Department of Conservation and Land Management,  
P.O. Box 51, Wanneroo, WESTERN AUSTRALIA 6065.

Tel : (09) 4472350 or (09) 4055100      Fax : (09) 306 1641

Details of the workshop and field programs will be forwarded to respondents to this notice in late September 1991.

# MILLER RESEARCH FELLOWS

The Miller Institute for Basic Research in Science is pleased to announce the Miller Research Fellowship awards for 1991-93. These individuals will arrive in Berkeley and begin their fellowship terms on August 1, 1991.

---

**ANNE BOURLIOUX** (PhD, Princeton University) will be sponsored by the Department of Mathematics and Professor Alexandre Chorin. Ms. Bourlioux's research will focus on the study of problems in the regime of high Mach number combustion, using a theoretical approach as well as large scale direct computer simulations.

**EDMUND BRODIE, III** (PhD, University of Chicago) will be sponsored by the Department of Integrative Biology and Professor Harry Greene. His research will integrate field observation and experimentation with theoretical modeling and molecular techniques to address the general problems of genetic integration and the maintenance of genetic variation in natural populations.

**DAVID EMSLEY** (PhD, Universite de Lausanne) will study the dynamics of nuclear spin systems in order to develop techniques for the study of materials and for application to magnetic resonance imaging and localized spectroscopy. Mr. Emsley will work under the sponsorship of Professor Alexander Pines in the Department of Chemistry.

**YASUYUKI KAWAHIGASHI** (PhD, University of California, Los Angeles) will be sponsored by the Department of Mathematics and Professor Vaughan Jones. He will study the classification of group actions on injective factors as a way of deepening the understanding of operator algebras via automorphisms.

**YURY MUKHARSKY** (PhD, Institute for Physical Problems, Moscow) will conduct research in the area of the quantization of mass flow in superfluid  $^4\text{He}$  and  $^3\text{He}$ , the superfluidity of the thin films of  $^3\text{He}$  and the study of isolated quantum vortices on superfluid  $^3\text{He}$ . Mr. Mukharsky will work under the sponsorship of the Physics Department and Professor Richard Packard.

**JAN NEKOVAR** (PhD, Czechoslovakia Academy of Science) will be sponsored by the Department of Mathematics and Professor Kenneth Ribet. He will study Chow groups on Kuga-Sato varieties associated to modular forms of weight  $2r > 2$ .

**SEAN RICE** (PhD, University of Arizona) will be conducting research in how the complexities of organismal biology interact with population processes to determine the dynamics of evolution. He will be sponsored by the Department of Integrative Biology and Professor Montgomery Slatkin.

**ERIC SHIRLEY** (PhD, University of Illinois) will be sponsored by Professor Steven Louie in the Department of Physics and will be calculating many-body effects in real solids by first-principles methods.

---

Candidates are nominated for the Miller Research Fellowship Awards by the science faculty at the University of California and by a world-wide panel of scientists. Miller Fellows are awarded an annual stipend of \$33,000 plus a contingency fund for a period of two years. The purpose of the Fellowship program is to bring to Berkeley young scholars of great promise and to encourage the free pursuit of their research.

---

Research Staff wishing further information on the above Awards can contact Steve Hopper, SPRS, at Wildlife Research Centre Woodvale on 4055 100

The following article was sent to us from our man in Karratha (SVL). The article comes from *Chemtech*, April 1991.

Childhood is a syndrome that has only recently begun to receive serious attention from clinicians. The syndrome itself, however, is not at all recent. As early as the eighth century the Persian historian Kidnom made reference to "short, noisy creatures," who may well have been what we now call "children." The treatment of children, however, was unknown until this century, when so-called "child psychologists" and "child psychiatrists" became common. Despite this history of clinical neglect, it has been estimated that well over half of all Americans alive today have experienced childhood directly (Seuss, 1983). In fact, the actual numbers are probably much higher because these data are based on self-reports, which may be subject to social desirability biases and retrospective distortion.

The growing acceptance of childhood as a distinct phenomenon is reflected in the proposed inclusion of the syndrome in the upcoming *Diagnostic and Statistical Manual of Mental Disorders, 4th Edition*, or *DSM-IV*, of the American Psychiatric Association (1985). Clinicians are still in disagreement about the significant clinical features of childhood, but the proposed *DSM-IV* will almost certainly include the following core features:

- (1) Congenital onset
- (2) Dwarfism
- (3) Emotional lability and immaturity
- (4) Knowledge deficits
- (5) Legume anorexia

#### Clinical features of childhood

Although the focus of this paper is on the efficacy of conventional treatment of childhood, the five clinical markers mentioned above merit further discussion for those unfamiliar with this patient population.

**Congenital onset.** In one of the few existing literature reviews on childhood, Temple-Black (1982) noted that childhood is almost always present at birth, although it may go undetected for years or even remain subclinical indefinitely. This observation has led some investigators to speculate a biological contribution to childhood. As one psychologist has put it, "We may soon be in a position to distinguish organic childhood from functional childhood" (Rogers, 1979).

**Dwarfism.** This is certainly the most familiar clinical marker of childhood. It is widely known that children are physically short relative to the population at large. Indeed, common clinical wisdom suggests that the treatment of the so-called "small child" (or "tot") is particularly difficult. These children are known to exhibit infantile behavior and display a startling lack of insight (Tom and Jerry, 1967).

**Emotional lability and immaturity.** This aspect of childhood is often the only basis for a clinician's diagnosis. As a result, many otherwise normal adults are misdiagnosed as children and must suffer the unnecessary social stigma of being labeled a "child" by professionals and friends alike.

# The etiology and treatment of childhood

Jordan W. Smoller



Reprinted from *Oral Sadism and the Vegetarian Personality: Readings from the Journal of Polymorphous Perversity*, Glenn C. Ellenbogen, Ed. Copyright 1986 Brunner/Mazel, Inc. The book is available from Brunner/Mazel Publishers, 19 Union Square West, New York, NY 10003; 212-924-3344.

**Knowledge deficits.** Although many children have IQ's within or even above the norm, almost all will manifest knowledge deficits. Anyone who has known a real child has experienced the frustration of trying to discuss any topic that requires some general knowledge. Children seem to have little knowledge about the world they live in. Politics, art, and science—children are largely ignorant of these. Perhaps it is because of this ignorance, but the sad fact is that most children have few friends who are not, themselves, children.

**Legume anorexia.** This last identifying feature is perhaps the most unexpected. Folk wisdom is supported by empirical observation—children will rarely eat their vegetables (see Popeye, 1957, for review).

### Causes of childhood

Now that we know what it is, what can we say about the causes of childhood? Recent years have seen a flurry of theory and speculation from a number of perspectives. Some of the most prominent are reviewed below.

**Sociological model.** Emile Durkheim was perhaps the first to speculate about sociological causes of childhood. He points out two key observations about children: (1) the vast majority of children are unemployed, and (2) children represent one of the least-educated segments of our society. In fact, it has been estimated that less than 20% of children have had more than a fourth-grade education. Clearly, children are an "out-group." Because of their intellectual handicap, children are even denied the right to vote. From the sociologist's perspective, treatment should be aimed at helping assimilate children into mainstream society. Unfortunately, some victims are so incapacitated by their childhood that they are simply not competent to work. One promising rehabilitation program (Spanky and Alfalfa, 1978) has trained victims of severe childhood to sell lemonade.

**Biological model.** The observation that childhood is usually present from birth has led some to speculate on a biological contribution. An early investigation by Flintstone and Jetson (1939) indicated that childhood runs in families. Their survey of more than 8000 American families revealed that over half contained more than one child. Further investigation revealed that even most nonchild family members had experienced childhood at some point. Cross-cultural studies (e.g., Mowgli and Din, 1950) indicate that familial childhood is even more prevalent in the Far East. For example, in Indian and Chinese families, as many as three out of four family members may have childhood.

Impressive evidence of a genetic component of childhood comes from a large-scale twin study by Brady and Partridge (1972). These authors studied more than 106 pairs of twins, looking at concordance rates for childhood. Among identical or monozygotic twins, concordance was unusually high (0.92); that is, when one twin was diagnosed with childhood, the other twin was almost always a child as well.

**Psychological models.** A considerable number of

psychologically based theories of the development of childhood exist. They are too numerous to review here. Among the more familiar models is Seligman's "learned childishness" model. According to this model, individuals who are treated like children eventually give up and become children. As a counterpoint to such theories, some experts have claimed that childhood does not really exist. Szasz (1980) has called "childhood" an expedient label. In seeking conformity, we handicap those whom we find unruly or too short to deal with by labeling them "children."

### Treatment of childhood

Efforts to treat childhood are as old as the syndrome itself. Only in modern times, however, have humane and systematic treatment protocols been applied. In part, the increased attention to the problem may be due to the sheer number of individuals suffering from childhood. Statistics compiled by the U.S. Department of Health and Human Services reveal that there are more children alive today than at any time in our history. To paraphrase P.T. Barnum: "There's a child born every minute."

The overwhelming number of children has made government intervention inevitable. The 19th century saw the institution of what remains the largest single program for the treatment of childhood, so-called "public schools." Under this colossal program, individuals are placed into treatment groups based on the severity of their condition. For example, those most severely afflicted may be placed in a "kindergarten" program. Patients at this level are typically short, unruly, emotionally immature, and intellectually deficient. Given this type of individual, therapy is of necessity very basic. The strategy is essentially one of patient management and of helping the child master basic skills (e.g., finger-painting).

Unfortunately, the "school" system has been largely ineffective. Not only is the program a massive tax burden, but it has failed even to slow down the rising incidence of childhood.

Faced with this failure and the growing epidemic of childhood, mental health professionals are devoting increasing attention to the treatment of childhood. Given the theoretical framework by Freud's landmark treatises on childhood, child psychiatrists and psychologists claim great success in their clinical interventions.

By the 1950s, however, the clinicians' optimism had waned. Even after years of costly analysis, many victims remained children. The following case (taken from Gumbie and Pokey, 1957) is typical:

Billy J., age 8, was brought to treatment by his parent. Billy's affliction was painfully obvious. He stood only 4 ft 3 in. high and weighed a scant 70 lb., despite the fact that he ate voraciously. Billy presented a variety of troubling symptoms. His voice was noticeably high for a man. He displayed legume anorexia and, according to his parent, often refused to bathe. His intellectual functioning was also below normal: He had little general knowledge and

could barely write a structured sentence. Social skills also were deficient. He often spoke inappropriately and exhibited "whining behavior." His sexual experience was nonexistent. Indeed, Billy considered women "icky."

His parents reported that his condition had been present from birth, improving gradually after he was placed in a school at age 5. The diagnosis was "primary childhood." After years of painstaking treatment, Billy improved gradually. At age 11, his height and weight have increased, his social skills are broader, and he is now functional enough to hold down a "paper route."

After years of this kind of frustration, startling new evidence has come to light which suggests that the prognosis in cases of childhood may not be all gloom. A critical review by Fudd (1972) noted that studies of the childhood syndrome tend to lack careful follow-up. Acting on this observation, Moe, Larrie, and Kirly (1974) began a large-scale longitudinal study. These investigators studied two groups. The first group comprised 34 children currently engaged in a long-term conventional treatment program. The second was a group of 42 children receiving no treatment. All subjects had been diagnosed as children at least 4 years previously, with a mean duration of childhood of 6.4 years.

At the end of one year, the results confirmed the clinical wisdom that childhood is a refractory disorder: Virtually all symptoms persisted and the treatment group was only slightly better off than the controls.

The results, however, of a careful 10-year follow-up were startling. The investigators (Moe, Larrie, Kirly, and Shemp, 1984) assessed the original cohort on a variety of measures. Height was assessed by the "metric system" (see Ruler, 1923), and legume appetite by the Vegetable Appetite Test (VAT) designed by Popeye (1968). Moe et al. found that subjects improved uniformly on all measures. Indeed, in most cases the subjects appeared to be symptom-free. Moe et al. report a spontaneous remission rate of 95%, a finding that is certain to revolutionize the clinical approach to childhood.

These recent results suggest that the prognosis for victims of childhood may not be so bad as we have feared. We must not, however, become too complacent. Despite its apparently high spontaneous remission rate, childhood remains one of the most serious and rapidly growing disorders facing mental health professionals today. And beyond the psychological pain it brings childhood has recently been linked to a number of physical disorders. Twenty years ago Howdi, Doodi, and Beauzeau (1965) demonstrated a sixfold increased risk of chicken pox, measles, and mumps among children as compared with normal controls. Later, Barby and Kenn (1971) linked childhood to an elevated risk of accidents: Compared with normal adults, victims of childhood were much more likely to scrape knees, lose teeth, and fall off bikes.

Clearly, much more research is needed before we can give any real hope to the millions of victims wracked by this insidious disorder.

#### Acknowledgements

The author would like to thank all the little people. This research was funded in part by a grant from Bazooka Gum.

#### References

- American Psychiatric Association (1985). *The diagnostic and statistical manual of mental disorders, 4th edition: A preliminary report*. APA: Washington, DC.
- Barby, B.; Kenn, K. (1971). The plasticity of behavior. In *Psychotherapies R Us*; Barby, B.; Kenn, K., Eds.; Ronco Press: Detroit.
- Brady, C.; Partridge, S. (1972). My dad's bigger than your dad. *Acta Eur. Age*, 9, 123-25.
- Flintstone, F.; Jetson G. (1939). Cognitive mediation of labor disputes. *Industrial Psychology Today*, 2, 23-35.
- Fudd, E. J. (1972). Locus of control and shoe size. *Journal of Footwear Psychology*, 78, 345-56.
- Gumbie, G.; Pokey, P. (1957). A cognitive theory of iron smelting. *Journal of Abnormal Metallurgy*, 45, 235-39.
- Howdi, C.; Doodi, C.; Beauzeau, C. (1965). Western civilization: A review of the literature. *Reader's Digest*, 60, 23-25.
- Moe, R.; Larrie, T.; Kirly, Q. (1974). State childhood vs. trait childhood. *TV Guide*, May 12-19, 1-3.
- Moe, R.; Larrie, T.; Kirly, Q.; Shemp, C. (1984). Spontaneous remission of childhood. In *New hope for children and animals*; Fields, W. C.; Ed.; Acme Press: Hollywood, CA.
- Popeye, T.S.M. (1957). The use of spinach in extreme circumstances. *Journal of Vegetable Science*, 58, 530-38.
- Popeye, T.S.M. (1968). Spinach: A phenomenological perspective. *Existential Botany*, 35, 908-13.
- Rogers, F. (1979). *Becoming my neighbor*. Soft Press: Pittsburgh.
- Ruler, Y. (1923). Assessing measurement protocols by the multimethod multiple regression index for the psychometric analysis of factorial interaction. *Annals of Boredom*, 67, 1190-1260.
- Spanky, D.; Alfalfa, Q. (1978). Coping with puberty. *Sears Catalogue*, 45-46.
- Seuss, D. R. (1983). A psychometric analysis of green eggs with and without ham. *Journal of Clinical Cuisine*, 245, 567-78.
- Temple-Black, S. (1982). Childhood: An ever-so sad disorder. *Journal of Precocity*, 3, 129-34.
- Tom, C.; Jerry, M. (1967). Human behavior as a model for understanding the rat. In *The rewards of punishment*; de Sade, M., Ed.; Bench Press: Paris.

#### Further readings

- Christ, J. H. (1980). Grandiosity in children. *Journal of Applied Theology*, 1, 1-1000.
- Joe, G. I. (1965). Aggressive fantasy as wish fulfillment. *Archives of General MacArthur*, 5, 23-45.
- Leary, T. (1969). Pharmacotherapy for childhood. *Annals of Astrological Science*, 67, 456-59.
- Kissoff, K.G.B. (1975). Extinction of learned behavior. Paper presented to the Siberian Psychological Association. 38th Annual Meeting, Kamchatka.
- Smythe, C.; Barnes, T. (1979). Behavior therapy prevents tooth decay. *Journal of Behavioral Orthodontics*, 5, 79-89.
- Potash, S.; Hoser, B. (1980). A failure to replicate the results of Smythe and Barnes. *Journal of Dental Psychiatry*, 34, 678-80.
- Smythe, C.; Barnes, T. (1980). Your study was poorly done: A reply to Potash and Hoser. *Annual Review of Aquatic Psychiatry*, 10, 123-56.
- Potash, S.; Hoser, B. (1981). Your mother wears army boots: A further reply to Smythe and Barnes. *Archives of Invective Research*, 56, 570-78.
- Smythe, C.; Barnes, T. (1982). Embarrassing moments in the sex lives of Potash and Hoser: A further reply. *National Enquirer*, May 16.

Jordan W. Smoller (a.k.a. Anonymous) holds the Pee-Wee Herman Chair of Creative Childhood Studies at Fisher-Price Institute. He completed his Ph.D. at the Playskool under the guidance of F.A.O. Schwarz. Smoller has disclosed that he himself was formerly afflicted with childhood, but the disease has been in remission for more than 40 years.

Thanks for discovering this tract to Dr. Hyla Garlen, our resident consultant on this malicious affliction.