

Australian Veterinary Poultry Association

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PFIZER AWARDS 1985

Pfizer at Sandwich, Kent, make up to six awards annually to young scientists who have carried out meritorious research in Britain. The awards are made on the basis of work published in the last two years and which should have potential application in the search for human or animal health drugs.

In 1985, the Award for Animal Health Research went to Dr WSK Chalmers of the Animal Health Trust, Kennett, Newmarket, Suffolk, for "the identification of the zoonotic hazard of *Chlamydia psittaci* in commercial ducklings".

Chalmers and his colleagues at Kennett developed an ELISA test and showed that half of 1238 sera from duck in East Anglia had chlamydial antibodies. *C. psittaci* has been shown by the group to cause about 20% of the mortality in duck flocks when it is associated with fatty kidney syndrome and haemorrhagic pancreatic necrosis. Chalmers' concern is primarily with the zoonotic hazard caused by bad management practices on the part of duck farmers who have, until recently, been unaware of the pathogen. The particular interest to Pfizer in Chalmers' work on *C. psittaci* is that he has identified an important pathogen which is hazard to man and to the expanding duck industry. It appears that the most effective way of eliminating it from commercial duck flocks is by the use of antibiotics in the feed.

Pancreatitis in Guinea Fowl

Observations on three birds from a flock of 500 guinea fowl aged four weeks which were received at the Veterinary Research Institute in very poor condition were described by Reece RL and Pass DA 1986 Australian Veterinary Journal **63** 26-27. Lesions in each were similar: atrophy of the lymphoid organs and hard, white, nodular and contracted pancreas with basophilic inclusion bodies filling the swollen nuclei of the acinar cells. Particles resembling adenovirus were seen on EM examination of pancreatic tissue. Isolation of viruses was not carried out. The lesions are consistent with pancreatitis due to adenovirus infection as seen in Europe but not previously reported in Australia.

Virus Receptors and Influenza virus

Viral pathogenesis used to be an unpopular area for research but things have changed and we are now in the midst of a great explosion of interest. Increasing numbers of people want to find out just how viruses cause disease and many of the old problems in viral pathogenicity and virulence are being reexamined.

One area of interest is that of viral receptors. Viruses adhere to host cells as a necessary preliminary to entering the cell and being uncoated. This involves attachment of viral surface polypeptides to components on the plasma membrane of the host cell. The attachment site [virus receptor] is known for a small number of viruses. Sometimes it is a molecule present only on certain types of cell, thus explaining why only certain types of cells can be infected, but other viruses probably attach to surface components that are present on a wide variety of cells. Receptors, of course, are not displayed on the cell surface for the benefit of infecting viruses. Viruses must make use of whatever molecules are available. The known examples include influenza virus which attaches to sialic acid-containing glycoprotein present on respiratory epithelial cells in mammals. Yet in birds, closely related influenza A viruses infect intestinal epithelial cells and are shed in large amounts in faeces. Could it be, writes CA Mims 1985 in an editorial in Virus Information and Exchange Newsletter for SE Asia and Western Pacific **2** 51, that human influenza virus, if it were more resistant to acid pH and was given the chance, would infect the intestinal cells in man? In ferrets, the urogenital tract has been shown to support the growth of influenza virus. Conceivably the virus could develop the ability to infect the urogenital tract in man if it were given the opportunity, perhaps causing a new type of viral urethritis. Although this is only a fantasy, it has to be pointed out that influenza can undergo rapid adaptive change, and regular encounters with urethral cells would select out any virus variants capable of replicating in these cells. New human virus infections are caused often by new viruses acquired from animals, but also by old viruses that have learned new tricks.

ODD SPOT

A London mortuary has agreed not to sack one of its workers who stored a hotel's Christmas turkeys in the foul freezer, so called because that's where badly decomposed bodies are kept.

Houghton's cash cut

Funds to the Houghton Poultry Research Station for 1986-87 will be cut by £437 000. The cut is a 16% reduction of the 1985 figure of £2.7 million to £2.3 million. This would mean the closure of the department of experimental pathology, formerly the leukosis experimental unit, where the Marek's disease vaccine was developed. Research into the physiology of welfare and ILT would cease. Research on Marek's disease and salmonella would be seriously reduced. Other areas which would be affected were research into the stunting syndrome, work on genetic engineering in relation to the development of new strains of chickens resistant to particular diseases and studies on rhinotracheitis in turkeys. A total of 26.5 posts will be lost although, through a combination of redeployment and abolition of vacant posts, staff redundancies will be kept down to nine.

There were three ways in which Houghton could respond to the cuts, according to Dr LN Payne who is acting director of the centre.

First, contractual research for the poultry industry as a whole or sectors within it. Dr Payne said that the centre had plans to approach industry with proposals for this.

Second, provision of individual services such as histological services, drug testing, production of specific pathogen free chickens and supply of stock cultures.

Third, provision of a clinical unit as a back up facility for veterinary investigators. Dr Payne thought that this would be an important source of new material leading to research relevant to the industry.

Much more serious, according to Dr Payne, was the threat of closure of the centre and removal of the scientific programme and staff to the Institute for Research on Animal Diseases at Compton, Berks. That threat has been averted while a government body reviews animal disease research in general. However, what was certain was that Houghton would be formally linked to the other animal disease research institutes in England, IRAD at Compton and the Animal Virus Research Institute at Pirbright, to form one institute under one director. That person was yet to be appointed.

At the end of the day the message was that in the future Houghton will need more support from the poultry industry if it is to continue to undertake the fundamental research that is the key to future developments as old diseases change and new ones emerge.

Inclusion Body Hepatitis in a tawny frogmouth

A 17-day-old fledgling tawny frogmouth [*Podargus strigoides*] which died in poor condition and jaundiced, had focal necrotic hepatitis and haemorrhagic typhlitis. Basophilic intranuclear inclusion bodies were seen in hepatocytes and in epithelial cells of the caecal mucosa. Clustered round particles about 81nm in diameter were seen in the nuclei of hepatocytes. Reece RL Pass DA & Butler R 1985 Australian Veterinary Journal 62 426 conclude that the light and electron microscopy suggest an adenovirus rather than a herpes virus.

Do slaughter methods affect the residual blood and the appearance of broiler carcasses?

Griffiths GL, McGrath M, Softly A & Jones C 1985 Veterinary Record 117 382-385, from the Department of Agriculture, Jarrah Road, South Perth, detected no differences in the appearance of carcasses or in the haemoglobin content of filleted minced meat when chickens were either electrocuted [240 volts] or stunned [55, 80 or 105 volts] before exsanguination. The method of slaughter made no difference to the amount of blood lost after venesection. This finding supports the view that exsanguination in broilers is primarily a passive process and that it is the individual response to exsanguination, rather than the slaughter technique used, that determines the amount of blood lost from a chicken. Furthermore, the authors conclude, electrocution ensures that broilers are humanely slaughtered.

TOXICITY EPISODES

Cases of poisoning of birds caused by agricultural chemicals and other substances were described by Reece RL, Scott PC, Forsyth WM, Gould JA and Barr DA 1985 Veterinary Record 117 525-527. The birds were poisoned as a result of ignorance, accident and malicious intent. The episodes involved maldison, monocrotophos, fenitrothion, trichlorofon, dieldrin, chlordane, endrin, metaldehyde, bromadiolone, arsenic, lead and zinc.

Height of cages for battery hens

The Commission of the European Communities has issued a draft council directive for minimum standards for keeping laying hens in battery cages. This states that the height of all cages must be "at least 40cm over 65 per cent of the cage area and not less than 35cm at any point". In the UK birds are commonly kept in cages which are somewhat lower than this.

Dawkins has described in the *Veterinary Record* 1985 **116** 345-347 two experiments on the effect of cage height on the behaviour of hens. The first experiment showed that hens clearly prefer cages higher than those currently in use in the UK. Preference, however, is only one measure of the hens' responses to cage heights. A study was therefore made of the way in which hens use vertical space in cages by recording their behaviour throughout the day in cages of unrestricted height. Attempts to measure the amount of horizontal floor space used by hens have been reported by Freeman *ibid* 1983 **112** 562 but, as Hughes *ibid* 1983 **113** 23 pointed out, this study did not take into account the time the birds spent doing various activities. The present study involved quantitative measures of the use of vertical space over a period of eight hours.

Nearly a quarter of head movements recorded in the second experiment in cages of unrestricted height occurred above 40cm, that is above the height recommended by the CEC. Even more occurred above the height of cages in current use on British farms.

The two experiments reported do not enable any definite conclusions to be drawn about the hens' welfare in lower cages, but they do form the basis for some concern.

ND in fowl in Britain, 1984

During February to July 1984, 23 outbreaks of ND were confirmed in chickens in Britain. Alexander DJ *et alia* 1985 *Veterinary Record* **117** 429-434, at the Central Veterinary Laboratory, New Haw, Weybridge, Surrey, used available mouse monoclonal antibodies and obtained unequivocal identification of the virus responsible for 22 of the outbreaks as similar to the avian paramyxovirus type 1 virus causing neurotropic disease in pigeons during 1983-84. The remaining outbreak was shown to involve an unrelated virus.

Epidemiological investigations produced evidence that 19 of these outbreaks occurred either directly or indirectly as a result of spread from diseased pigeons infesting food stores at Liverpool docks. Virus was isolated from carcasses of pigeons found among the food and from samples of the food itself. The milling and constitution of food for layer and broiler breeder flocks involved no process which would adversely affect virus infectivity. This appeared to be an extremely important point as, except for three broiler farms with demonstrable connections with infected laying flocks and layers in another flock, no outbreak of the pigeon-associated virus occurred in broilers or other poultry receiving food that had been pelleted.

The 23 outbreaks resulted in the slaughter of 820 000 birds, with compensation and ancillary costs resulting in a charge of about £2.2 million being raised against the industry-based insurance scheme. Although subsequent events have shown that this series of outbreaks had been brought under control following imposition of restrictions on movement of food from contaminated stores at Liverpool and Birkenhead docks, the industry decided not to continue financing a 'stamping out' policy and consequently national control measures reverted to a vaccination and non-slaughter policy.

Drug resistance of bacteria from Victorian birds, 1978-1983

The resistance to anti-microbial agents of bacteria isolated from pathological conditions of poultry and cage birds in Victoria from 1978 to 1983 was reported by Reece RL & Coloe PJ of the Veterinary Research Institute, Park Drive, Parkville 3052, in the *Australian Veterinary Journal* **62** 379-381. Resistance was determined for isolates of *E. coli* [396], *Salmonella* species [159], *Staphylococcus aureus* [190], *Pasteurella multocida* [90], *P. anatipestifer* [16], *Yersinia pseudotuberculosis* [11] and *Haemophilus paragallinarum* [12]. The isolates of *E. coli* had a high prevalence of resistance to tetracycline and sulphonamides and a lower prevalence of resistance to furazolidone and sulphamethoxazole-trimethoprim. The isolates of *Salmonella* spp commonly had resistance to tetracycline, sulphonamides, furazolidone and sulphamethoxazole-trimethoprim. Almost half the isolates of *S. aureus* showed resistance to lincomycin and many showed resistance to penicillin. Resistance to tetracycline was found in isolates of *P. multocida*, *P. anatipestifer* and *Y. pseudotuberculosis*. Some isolates of *H. paragallinarum* showed resistance to sulphonamides, streptomycin and sulphamethoxazole-trimethoprim.

Several spelling mistakes disfigure the paper; errors in data in both text and figures, which have been pointed out to me by Rod Reece, are more serious.

U.S. Influenza Aftermath

Within a decade or so, the U.S. poultry industry has experienced two emergency disease situations and two costly but fortunately successful eradication campaigns. One was on the West Coast with VVND in the early 1970's and the other in the East with highly pathogenic avian influenza in the 1980's. Each programme cost the taxpayers over \$50 million outright and cost the poultry industry countless more millions, directly and indirectly.

What, asks Charles Beard in the June 1985 issue of *Broiler Industry*, did we really learn from the AI outbreak? Will the next eradication effort be successful?

He sees the need for steps to be taken now and as an integral part of management to reduce the chances of re-introduction of AI into poultry and its spread from flock to flock. These steps are sanitation and security: cleaning and disinfection of housing, equipment and people, isolation and separation of poultry, and control of movement of poultry and people. If, he argues, the countless chicken to chicken passages of the influenza virus had anything to do with the change in its virulence that occurred between April and October 1983, a tight sanitation and security programme may have even prevented the fowl plague-like phase of the outbreak. One lesson learned in Pennsylvania is that no influenza virus in chickens, especially an H5, will in the future be judged for its potential threat solely by the way it currently behaves. The documented change that occurred in the disease-causing capability of the virus and the interstate and international disruptions in poultry commerce that resulted, has helped many in the industry appreciate the need for more contingency planning.

To understand and act on the need for change in some practices will require a concerted and continuing programme of education. The challenge to management, Beard insists, is "adequately to inform and motivate those who actually come in contact with poultry so that they will understand the need for sanitation and security practices and will follow them - even when no one is looking, on weekends, on holidays and in bad weather."

Pie in the sky? Perhaps. Long and difficult? For sure. But, he hopes, the lessons learned during the two big poultry disease emergencies will not be wasted. The lessons are too expensive and too painful to keep repeating. Once should have been enough; twice is more than enough.

In other articles in the same issue, readers say what they learned and a survey of broiler companies describes changes they have made.

[Thanks to Clive Jackson for these reports]

Stool Gazing

GUANO is the accumulated excreta of sea birds and, by extension, of any birds and of bats and seals. Massive deposits on Nauru and Ocean Island and on some islands off South America are mined and exported as fertiliser, as it is a useful source of nitrogen, phosphate and potassium. Export income from the first named is invested in a Melbourne landmark, Nauru House, locally known as bird shit tower. The second product of evacuation, Ocean Island, is being evacuated. Guano is a Spanish word taken from *huano*, dung, in the Quechua language. At the time of the Spanish conquest of the Incas, Quechuan was spoken along the west coast of South America from Colombia, Ecuador and Peru as far as mid-Chile, and it is still spoken by millions of people. In 1850 a compound was extracted from guano bearing some resemblance to the xanthines. Accordingly, its discoverer called it guanine. A century later Watson and Crick discovered that guanine is one of the four basic substances that are integral in the molecular structure of DNA. Guanidine, originally, prepared from guanine, has several derivatives in industrial use. It is also a molecular component of creatine and arginine, and of the antimalarial drug proguanil and the antimicrobial sulphaguanidine.

More essential information for MACVS candidates in later issues from Dr R Supwards.

Bursa of Fabricius traps environmental antigens

Ligation of the bursal duct before hatching by Ekino *et alia* 1985 *Immunology* 55 405 - 410 prevented entry of environmental antigens into the lumen of the bursa and the development of 'natural' serum agglutinins for bacteria and hetero-erythrocytes. Inoculation of antigens into the lumen of the bursa at the same time as ligation of the duct induced antigen-specific antibodies. These results suggest that the bursa is a major channel through which environmental antigens stimulate the immune system and induce the formation of 'natural' serum agglutinins. Previously, these workers suggested that neonatal priming via the bursal route accelerates the proliferation or differentiation of precursors of antibody-forming cells and that the removal of the antigenic stimulation from the bursal lumen by ligation before hatching retards the maturation of the immune reactivity. Now they suggest that antigenic stimulation via the bursal route accelerates the development of lineage of antibody-forming cells. This accelerating mechanism of the bursa of Fabricius plays a major role in the rapid adaptation of the avian immune system to the environment.

Veterinary Public Health Aspects of Campylobacter Infections

For over 70 years, infections caused by organisms that are now classified as *Campylobacter* have been known to occur in cattle, sheep, pigs and birds. *Campylobacter jejuni*, which is now recognised as a discrete species, is a gram negative, microaerophilic, thermophilic, nalidixic acid sensitive, hippurate positive pathogen requiring special selective media for propagation.

However, it has only recently been realised that *C. jejuni* is an important cause of diarrhoea in humans throughout the world. *C. jejuni* enteritis is primarily a zoonotic disease which has a great public health significance for developed and developing countries. In developed countries, the disease is almost exclusively transmitted by foods of animal origin, but in developing countries the limited amount of available evidence indicates that it may be mainly transmitted through faecal contamination of food and water or by close contact with a sick person or animal.

There is no doubt that veterinary public health should and could contribute greatly to the prevention and control of this human infection. However, successful actions in this direction are restricted because the ecology of *C. jejuni* is still not clear. More information is needed on the survival of *C. jejuni* in the environment and different foods of animal origin, on rapid methods of detection, and on practical preventive measures that could be taken in animal husbandry and in meat- and milk-processing plants.

In February 1984, the World Health Organization convened a consultation on the veterinary public health aspects of the prevention and control of *Campylobacter* infections. The purpose and objectives of the consultation were as follows:

- to review the problem of campylobacteriosis in different countries;
- to consider the role of animals and foods of animal origin in the epidemiology of this disease and review new data on the ecology of *C. jejuni*;
- to select the most suitable methods for the isolation of this organism from animals, foods and environmental samples;
- to consider the most important and practical veterinary public health measures for the prevention and control of this foodborne disease of man.

It was pointed out that preventive measures in animal husbandry should be directed to the raising and fattening of *Campylobacter*-free animals for slaughter. It is also important to follow strict rules of hygiene during the transport and slaughter of animals and the processing of meat. Education is necessary for all involved in food preparation, emphasising the need for cleanliness, adequate cooking and the prevention of cross-contamination.

The consultation made recommendations for future research in the fields of epidemiology, immunity, laboratory methods, prevention and control, which are summarised in the Bulletin of the World Health Organization 1984 62:849.

A definitive and up-to-date review of the occurrence and significance of *C. jejuni* in man and animals was recently published in *Veterinary Research Communications* 9 (1985) 167-198 by SM Shane and MS Montrose, Department of Epidemiology and Community Health, School of Veterinary Medicine, Louisiana State University, Baton Rouge, Louisiana 70803 USA.

A Legal View of Test Reports

In a recent issue of *NATA News*, the National Association of Testing Authorities comments that a recent case in the Victorian Supreme Court has highlighted the attitude of the legal profession to the validation of test reports.

Some laboratory managers seem to believe that it is only the final test report that matters. They take the view that the records of client's instructions, sample identification, sample treatment, original test observations and the deductions made from these observations are essentially the internal records of the laboratory. The legal profession takes a different view.

If a test report is presented as evidence in a court case, then the lawyers can be expected to question the laboratory manager very thoroughly on all the steps which have led to the test report in question. They may require the laboratory manager to produce every piece of paper associated with the tests, each signed by the person doing the work and by the persons who checked the work and the calculations. They can be expected to question the qualifications, experience, training and duties of all the individuals involved. Just to make it harder for the laboratory manager, several years can elapse between the performance of the tests and the court case.

NATA has always regarded thorough documentation of laboratory data as an essential element of good laboratory management. They emphasise this in their criteria booklets as a condition of registration and their assessment teams pay close attention to the completeness and traceability of records during their examinations of laboratories.

Natural Subclinical Salmonella Infection In Chickens

Concern has followed reports that certain antibacterial feed additives both favour the colonisation of the alimentary tract of meat animals by salmonella and extend the duration of shedding of these organisms by infected animals. The methods used in some of these reports did not simulate the commercial situation and, therefore, the evidence incriminating the additives may be questioned. Linton, Al-Chalaby & Hinton 1985 *Veterinary Record* 116 361-364 described a model using naturally infected birds kept under near commercial conditions to evaluate the influence of feed additives, and other factors, on salmonella shedding rates.

The experiments reported in this paper used groups of chickens of both sexes. Males grow faster than hens and so consume more feed. As the source of the salmonella infections was presumed to be the food, the salmonella carriage rate may differ between the sexes. This is being looked at. The studies to date have been essentially qualitative. From a public health point of view, the incidence of excretion at the time of slaughter is of prime importance. The most direct indicator of potential carcass contamination is the salmonella status of the caecal contents. It is planned to improve the model by determining the number of salmonella present in the caecal contents of birds aged six to seven weeks.

In the following paper, the same authors - Al-Chalaby, Hinton & Linton 1985 *ibid* 116 364-365 - showed that the addition of Kem San (Kemin Europa NV), a water sanitiser which contains a mixture of organic acids and other approved substances, to water offered to broiler chicks was effective in eliminating salmonella from the drinking water. However, it failed to influence salmonella carriage by chickens which were still shedding salmonella at market age (seven weeks old). Confidence in the use of water sanitiser to control salmonella infection may, therefore, give a false sense of security.

The results of a preliminary trial in which chicks were fed rations treated with a preparation containing 85% formic acid (Bio-Add; BP Nutrition) were more encouraging (Hinton, Linton & Perry 1985 *ibid* 116 502. The preparation was added to the rations for three of four groups at the rate of 0.25%, 0.5% and 0.75%, respectively. The rations were not pelleted. The chicks, in four groups of 125 day-old chicks of mixed sex from a commercial hatchery, were fed one of the four rations for seven weeks. Samples were collected according to the protocol in the first paper of these authors. No salmonella were isolated from any samples of chickens fed rations containing 0.5% and 0.75% of the preparation whereas salmonella species of several serotypes were isolated from chickens in the other groups.

Turkey rhinotracheitis in England and Wales

A preliminary report from the British Veterinary Poultry Association on this disease was published in the *Veterinary Record* 21/28 December 1985 117: 653-654. The report summarises observations of this disease which has spread to most parts of England and Wales since it appeared in Norfolk in June 1985. A brief discussion of similar diseases in other countries is included. This report is followed on page 654 by a summary of three papers on the disease given at the December meeting of the BVPA.

Arbovirus Surveillance in Victoria

Surveillance of the Murray Valley region using sentinel chickens for monitoring for the presence of alpha and flaviviruses has continued without interruption since 1973. There was a total of 12 Sindbis sero-conversions in the three flocks sited at Mildura, Echuca and Barmah last year. These occurred between 24 December 1984 and 30 January 1985. J Campbell & J Aldred, Attwood Veterinary Regional Laboratory of the Victorian Department of Agriculture, reported in *Communicable Diseases Intelligence* 85/25 that one flavivirus sero-conversion occurred in the Rutherglen flock on 27 December 1984. The causal agent was probably Edge Hill virus. Twenty horses were blood sampled at weekly intervals from 29 October 1984 to 17 February 1985 and tested for antibody to alpha and flaviviruses. The animals were held at Mildura, Swan Hill, Wangaratta, Tatura and Bendigo. No sero-conversions occurred.

Sentinel chicken surveillance is being repeated this summer. In November, 200 birds were purchased and blood sampled at Bendigo and distributed to 10 towns in the Murray Valley. Weekly testing will continue until April 1986. It is hoped to repeat the use of horses in the surveillance programme this season.

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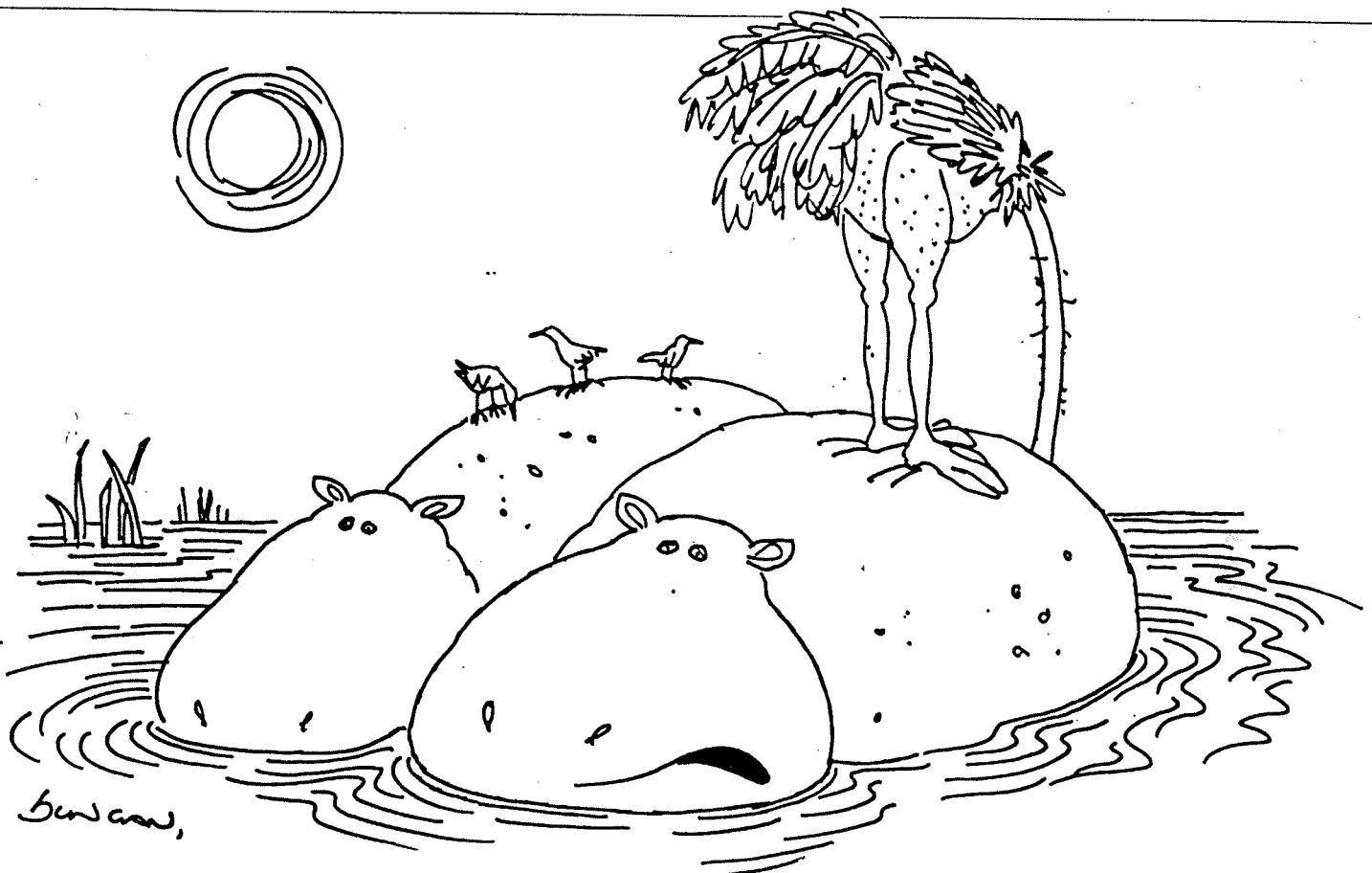
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"As exchange schemes go, I've seen better."

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ANNOUNCING A NEW SLIDE STUDY SET

The American Association of Avian Pathologists is happy to announce the availability of a new slide study set on Laryngotracheitis by Deoki N. Tripathy. This set may be purchased for \$15 from:

American Association of Avian Pathologists, Inc.
University of Pennsylvania
New Bolton Center
Kennett Square, PA 19348-1692

Shipment will be made upon receipt of payment by International Money Order or a check drawn on a U.S. bank. AAAP will pay the shipping charges.

Isolation of *Bordetella avium* from poultry

Four Australian isolates of Gram-negative nonfermentative bacteria obtained from poultry were compared with reference strains of *Bordetella avium*, *Bordetella bronchiseptica* and *Alkaligenes faecalis*. The isolates were identified as *B. avium*. A routine procedure for the identification of this recently recognised poultry pathogen is described by Blackall PJ & Farrah JG, Queensland Department of Primary Industries, Animal Research Institute, Yeerongpilly 4105, in the Australian Veterinary Journal 1985 62 370-372.

COMING EVENTS

VIV-Asia, Tokyo, 21-24 April 1986
[an international exhibition of technology and systems
for intensive animal production]
contact Stefan Kemball, VIV-Asia in Japan, 11
Manchester Square, London W1M 5AB

AVA AGM, Surfers Paradise, 11-16 May 1986
contact Qld LAC, Box 34, Indooroopilly 4068

AVPA AGM and Scientific Sessions will be held in
association with
Refresher Course in Poultry Health, Sydney, 26-30 May
1986
contact The Post Graduate Committee in Veterinary
Science, PO Box A561, Sydney South 2000

IVth International Symposium of Veterinary Laboratory
Diagnosticians, Amsterdam, 2-6 June 1986
contact Secretariat of the Symposium, c/o Organisatie
Bureau Amsterdam bv, Europaplein, 1078 GZ
Amsterdam, The Netherlands.

AVPA Avian Histopathology Workshop, Camden, 17-19
February 1987
contact Garry Cross

XXIII World Veterinary Congress, Montreal, 16-21
August 1987
contact XXIII Congress Secretariat, 3450 University
Street, Montreal, Quebec H3A 2A7, Canada.

How many authors can dance on the point of a pencil?

In March Dr M Falkner wrote to the British Medical Journal and asked whether a case study with 12 authors might be a record for medical publications. Six months later, a transatlantic answer is - not at all. The apparent champions, if that is the term, wrote the following paper in a Japanese journal: Saito A et alia 1983 Kansenshogaku Zasshi 57 82-112 [Comparative test of the effectiveness of Netilmicin and Sisomicin on respiratory tract infection by double blind method.] This paper had 160 authors; their names filled four pages of the journal.

Now the AVPA has somewhat more than 160 members. Why don't you collectively write a paper, publish it here, pick up a second citation in the Guinness Book of Records and give your individual CV's a double boost? Meanwhile, get yourself in training now with a paragraph or a page on some avian topic and let's have it.

I was remiss in not acknowledging a contribution from Kevin Cooper in the last issue - sorry, Kevin, belated thanks. Thanks to Rod Reece and Clive Jackson for contributions to this issue which was compiled by Trevor Faragher, NBSL, Private Bag 7 Parkville 3052 (03) 387 4211



"Nearly finished. It's just a question of dotting the birds and crossing the fish."