INTERNATIONAL FALCONER

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- High Desert Grouse
- Modern Captive Breeding
- Hawking with the Cooper's Hawk in the Central U.S.
 - Interview with a Rook/Crow Hawker
 - Game Hawking Tactics
 - Treating Bumblefoot
 - Out of the Moult
 - Talk Dog

INTERNATIONAL

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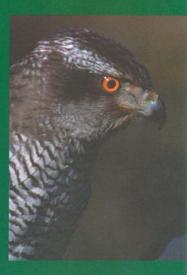
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Mature female Goshawk

Welcome to the premier edition of International Falconer'

'International Falconer' has been a concept for a few years and now finally it has become a reality. Our premier edition has a great mixture of articles from some very talented and knowledgeable contributors. Thanks go out to them for having faith in the project and providing us with the excellent material that we now have.

A big 'thank you' also to all of the advertisers who have placed ads in our first edition, but our biggest 'thanks' goes to the huge number of falconers who have given us their wholehearted support by subscribing to 'International Falconer'.

ABOUT THE EDITOR

For as long as he can remember Seth has had a fascination for birds. It began with parakeets, parrots and waterfowl and in 1984, by chance, he noticed an advertisement in a well known British sporting magazine offering courses on falconry and raptor management. He signed up for an introductory course. They were, it turned out being held by Nick Fox at his farm in south Wales and after this brief insight into the world of falconry and raptors, Seth was well and truly

Since then hawks and falcons have been a continual part of his life. He went on to work for Nick Fox as falcon technician for a couple of breeding seasons helping with the production of New Zealand falcons, Sakers, Peregrines and Merlins. In 1988 he began studying Game Wildlife and Habitat Management at Sparsholt Agricultural College, England. For his work placement, Seth was extremely fortunate to find a position in Canada working at Wood

Buffalo National Park as a field assistant on the anatum Peregrine Falcon Recovery Plan. These were a memorable few months and the experience of a lifetime. On leaving college he began to pursue his other great interest, photography, and spent the next couple of years travelling Europe and sometimes beyond, building up his stock of wildlife and landscape photographs.

Throughout all this time there has always been a hawk or two being flown; Sparrowhawk, Redtail and Harris, as well as the occasional falcon. He also has a big interest in captive breeding and for the past few years has been building up a fine selection of breeding stock. Dogs play a large part in his hawking and he now concentrated his efforts on Hungarian Vizslas.

Seth has been a member of the British Falconers' Club since 1985 and The North American Falconers' Association since 1997.

International Falconer welcomes contributions for articles both written and photographic. Please send for a copy of our Writer's and Photographer's Guidelines before sending material.

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EDITORIAI

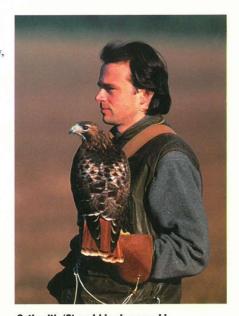
Falconry is an art pursued with a passion by people from all walks of life, around the world. It is ever growing and ever improving. Indeed as we approach the dawn of a new century, in many ways it has probably never been in better shape. The wonder of captive breeding, telemetry, pioneering training techniques, better understanding of raptor psychology, medicine and physiology. All of these combined have, over an incredibly short period of time, taken falconry to a new dimension of which our ancestors could not have even dreamed. It won't stop here, there is a lot more change ahead. It will be fascinating to see how things evolve over future years.

At the same time however, there are individuals and organisations who want to see the end of flying hawks at quarry or at the very least impose severe restrictions. Sadly this is already the case in some countries. Don't be complacent, these people mean business and pose a real threat to the art and sport that we love; our way of life. It is up to every falconer, to support in any way they can, the excellent organisations, both national and international, that are fighting for our cause in the political arena.

I hope 'International Falconer' can play a very small part in falconry's future, by bringing together falconers from across the globe, whatever their experience level or background and make available all relevant information on a worldwide scale. There is so much good falconry going on out there and so much knowledge on every conceivable aspect, hopefully it can all be shared on the pages of this magazine. Falconry has many facets and there are many different ways of keeping, training and flying hawks, but rarely such a thing as the best way. Ultimately we nearly all have the same goal; to see a bird flown at the peak of its fitness in the best possible style at a wild and testing quarry. I hope 'International Falconer' will maybe broaden your horizons and also make an important contribution to your overall falconry enjoyment.

Safe and happy hawking.

Seth



Seth with 'Storm' his six year old female Redtail.

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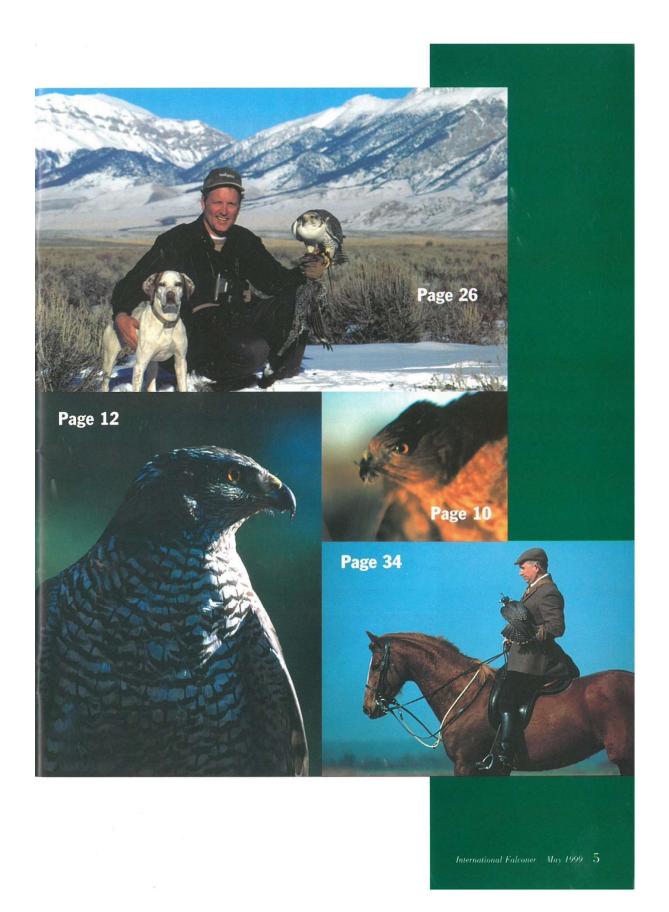
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NEWS, **UPDATES AND INFORMATION FROM AROUND** THE WORLD

This section will be a regular feature in 'International Falconer', to keep you informed with all the latest news on a variety of relevant topics from around the world. If you know or hear of any information that should be featured please let us know. We also welcome manuscripts for this section.

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The Peregrine Fu



Wild female anatum Peregrine.

n recognition of the successful restoration of the North American Peregrine falcon, The Peregrine Fund along with the Santa Cruz Predatory Bird Research Group, The Raptor Centre and their Canadian cooperators have announced a North American celebration. The event will take place at The Peregrine Fund's World Centre for Birds of Prey, Boise, Idaho, on the 20th and 21st of August, 1999. The Peregrine Fund are trying to contact everyone who has participated in the restoration and wish to send them an invitation to this special celebration. They are

developing lists but need help to contact everyone who has been involved and played a part. If you know of anyone who should be there in August please send names and addresses to: Peregrine Celebration 566 W. Flying Hawk Lane Boise Idaho 83709 USA Tel: (208) 362 3716

Fax: (208) 362 2376 Email: tpf@peregrinefund.org



Staff from Alberta Fish & Wildlife and Canadian Parks banding a young eyass Peregrine in Wood Buffalo National Park. The eyas, bred at the Wainwright Breeding Facility, is about to be fostered to wild parents; a technique that played an important part in the successful restoration of the species in North America.

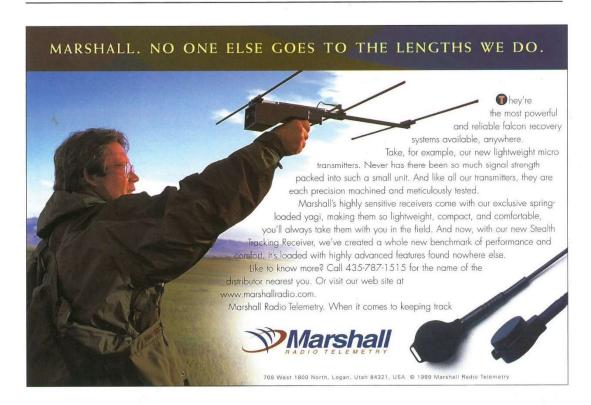
nd prepares to celebrate



Canadian Parks wardens placing foster eyasses in an eyrie in the remote Northwest Territories.



Two successfully fostered captive bred eyasses. Since 1974 the Peregrine Fund along with their cooperators have been responsible for over four thousand captive-bred Peregrines released into the wild. Many released birds and their subsequent offspring now breed in healthy numbers across North America; a truly remarkable conservation achievement.



THE INTERNATIONAL ASSOCIATION FOR FALCONRY AND THE CONSERVATION OF BIRDS OF PREY

Last November in Portugal, by the kind invitation of the 'Association de Portugessia', the IAF held its 30th Annual General Meeting in the pleasant surroundings of the Havas of Alter Stud which is being renovated under EU heritage funding. The meeting was attended by many member representatives and members of the Advisory Committee who act as a board of directors for the Association.

The meeting was sadly to mark the passing of Anthony Jack who has put so much into falconry over many years. Also it was to accept the resignation of its President of 14 years, Christian de Coune. This was a truly memorable event wonderfully organised by our hosts and it was delightful to see Christian's happiness when presented with a magnificent life size bronze tiercel Peregrine - it stimulated much envy amongst so many passionate falconers, but which could still only be a token for the enormous debt we all owe to Christian.

This has been an exciting time for the IAF following much activity during the past few years. Christian de Coune had done many essential tasks in CITES, the EU, Berne Convention etc. with a huge workload, difficult to share under the existing structure. The US has shown renewed interest in the activity of the Association having sent NAFA's President Tim Kimmel to Zimbabwe for the CITES COP and then allowed Frank Bond to join the Advisory Committee with the main task of contributing his legal expertise in redrafting the constitution. The aim had been to remove some of the aspects which had now become outmoded in the changing circumstance of the international scene and thus to make the organisation more relevant to possible new member organisations like the US.

After a huge amount of work by all the members of the Advisory Committee and many of the member organisations the new constitution was agreed at the AGM and

approved. It was subsequently finalised at the Advisory Committee meeting in Brussels and registered with the Belgian Authorities. Aspects of the old structure have now been remodelled with the pleasing result that those aspects which were exclusive have now been removed and the Association is now hopefully more able to be inclusive to all falconers worldwide who might be interested and served by the Association.

It can be seen just how alert and active the Association has been in maintaining itself to be able to best serve falconers needs internationally. In todays world this is mainly a role of influencing the regulatory process in favour of falconry where and whenever it occurs.

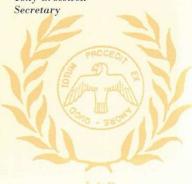
FROM THE CONSTITUTION

As an international federation of falconry organisations the objectives of the IAF are:

- 1. To represent falconry throughout the world. Falconry is the traditional sport of taking quarry in its natural state and habitat by means of trained birds of prey. It is a hunting art.
- 2. To preserve and encourage falconry within the context of sustainable use of wildlife.
- 3. To encourage conservation, the ecological and veterinary research on birds of prey and promote, under scientific guidance, domestic propagation for falconry.
- 4. To develop, maintain and amend national and international laws, treaties and conventions to permit the pursuit and perpetuation of falconry.
- 5. To require the observation of falconry, hunting, conservation and welfare laws, regulations, traditions and culture with regard to the taking, import, export and keeping of birds of prey, the taking of quarry species and the right of access to land in the country concerned.
- 6. To promote and uphold a positive public image of falconry with specialist organisations which regulate or otherwise affect falconry.

Following the resignation of Christian de Coune the membership turned their attention to his replacement and elected Ferrante Pratesi (Italy) as the new president, Patrick Morel (Belgium) as vicepresident. 'Frikki' Pratesi then appointed Antonio Carapuco (Portugal) treasurer and Anthony Crosswell (UK) secretary. With a wholly new team the IAF is thus restructured to act as a board of directors headed by the president and will in future act in this manner. The updated IAF is launched to face the millennium and all its new opportunities. Building on its past successes of dealing with EU regulation development, creating a passport regulation within CITES it moves onward and has immediately responded to this challenge and is hard at work on your behalf. We have issued an invitation to NAFA to join the Association and help the work as well as welcoming other new applicants. We are dealing with the captive breeding issue within CITES and the much talked about hybrid issue. The membership is already more than 20 countries and financed by the membership levy it is great value for money in performing an essential role in the modern world. The Advisory Committee is hard at work under the chairmanship of Gilles Nortier (France) already dealing with issues which are of enormous significance to the future of falconry in every country. The Association needs your support.

Tony Crosswell Secretary





Campaign For Falconry

PROMOTING THE ART • PROTECTING THE FUTURE

irstly the Campaign For Falconry would like to thank all those individuals. Clubs and Companies who have supported us in the first year - we couldn't have done it without you.

For those of you who are not familiar with the CFF - it was formed as an independent body to work closely with the Countryside Alliance and the Hawk Board.

It is not answerable to either but believes strongly in both.

The first financial aim was to fund at least one third of the Hawk Board Co-Ordinator's salary and then contribute financially to areas where funds are urgently needed. The CFF hopes to raise sufficient money to finance urgently needed scientific research.

For those of you who feel you contribute enough already, let us remind you that there is a real and

present danger of all field sports being banned. There are also a large number of people, incredibly well funded, who would ban the keeping of any 'wild' animal or bird in captivity. If therefore, the anti-field sport lobby and the animal rights groups are left unattended and unopposed we, and that includes owl keeping to game hawking, could be a thing of the past. It should also not be forgotten that there are other well respected, well funded organisations who could turn the tables against us. Whilst the CFF appreciate that most falconers/raptor keepers contribute through their clubs and organisations, it is important to realise that those opposing us are funded by hundreds of thousands and in some cases millions of pounds

Money is needed to 'defend' falconry, it is also needed to contribute to those people who could and do, help us.

It is important to remember that there are quite a number of groups who are in a position to help 'fight our corner' but in turn, we have to help them.

The CFF also believes that a united falconry front is vital to the future of our sport. Whilst it is important to have serious and constructive debate, this should at no time prove divisive. We believe it is important to pool existing resources, use existing organisations and keep going forward.

In closing, we would like to encourage all falconers, practising and non practising alike, to join the CFF as an annual supporter. We would also hope that by the end of the year a few more of those people earning their living through falconry will join the trade supporters list. EVERY penny the CFF makes goes back into falconry.

Please continue to help The Hawk Board, The Countryside Alliance and the Campaign for Falconry to help you.



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Hawking with the Cooper's in the central U.S.

by Mike McDermott

My good friend Tracy and I had met for a Saturday of quail hawking with our two cooper's hawks. We live in an area rich with agriculture, weedy areas and patchy forests. Bobwhite quail are the dominant upland game species. These gentlemanly gamebirds hold very well for dog points, flush dramatically and fly for considerable distances – at speed. They are locally very plentiful and an ideal accipiter quarry.

The passage Cooper's softly raked at her leather hood with impatient yellow feet. Inches away three Hungarian Vizslas gave their perkiest looks begging to be released into the fields. Additionally our quail hawking team had an intermewed, imprint tiercel Cooper's standing on another perch. Tracy was attaching telemetry and bells to his female. This was a fresh passage bird only a month out of the trap; he'd caught her using a pigeon and a dho-gazza in his back yard. (The central US is relatively infested with wild coops). She weighed 15oz. (420g) today and was ready to go. My tiercel flew at just over 10oz. (280g) and was equally charged up. He was taken as a three day old eyass from a wild

nest and imprinted.

The hounds were released and we were off. Hand signals directed the dogs into fence rows and particularly succulent weedy patches. Our first dog point came just moments later. We spotted the dog in a low crouching point aimed directly into a thin line of weeds and cover. The only problem was a thunderous freight train passing only a hundred yards away. Tracy unhooded his Cooper's and moved into position. Our intention was to simply wait for the train to pass; unfortunately the quail had its own agenda. It flushed low and fast burning out twenty yards before the coops had even left the glove. Of course, as luck would have



it the quail flew directly at the moving train. Passage birds can sometimes surprise you with some of the distractions that they can tolerate.

She took stand on a tree branch just over the passing train and in the general area where the quail had landed. It took a full five minutes for the train to pass before she was called down. The trio of dogs soon found the quail with a point and another amber coloured dog honoring. Tracy was moving in for the flush. Zip - another twenty yard lead before the coop pursued, but then she gained speed and followed it to ground in an additional hundred yards. We sprinted down the tracks hoping one of our yellow beasts would repoint the quail before it had rested or ran off. One of the fine dogs had crisply snapped on point and Tracy moved in again. The coop was all worked up now, her head was bobbing and she stretched tall trying to see everything at once. The quail flushed and was immediately taken just a few feet off the ground. The hawk plucked and ate as we reminisced how this bird was similar to his last passage in that neither was very gifted in flashing off the glove but both excelled in tail-chasing. The female was hooded and replaced in the vehicle cadge as I geared up my imprint male.

The next point was in some tall weeds just a few yards from the steel tracks. The tiercel was head bobbing frantically as I slowly stalked in behind the dog. WHOOSH! Up rose a covey of twenty birds. He made the no-brainer decision of simply binding to the closest one and dropped down into the prairie grass with spread wings. I traded him with the lure. You know, a one gram tidbit for a whole quail. It's a fair trade - if your brain is the same size as one of your eyes!

Off we charged following the dogs looking for our next point. The tiercel was back into the hunting mode: standing tall, poking his snake-like beak with every step, fully expecting something to happen at any moment. He wasn't disappointed for long. One of the dogs had inadvertently

bumped a few birds way out in the distance. He pushed off the glove and steadily pumped in a climbing pursuit. After he had gone 200 yards his ascent stopped but his chase continued as he glided down and eventually out of sight. Tracy and I had long since been sprinting behind to follow as much of the flight as we could. With telemetry, I homed in on my hawk and scooped him up before sending the dogs into the thick matte of reeds and vines. With a quick point and a timely flush, the now fatigued quail was easily taken on the rise. The coop just dropped back into the tangled mess that the quail had risen from. I crawled into the tangle searching for my hawk on hands and knees. Tracy helped to encourage me by announcing that another dog was on point down the tracks! After locating the coop, I did a quick trade and we were off.

Down the cold rails we ran until seeing that golden dog pointing at the bottom of a steep weed filled ditch. What to do? The cover is so dense and offers little hope of a clean flight. I circled around anyway and lo-andbehold, I managed to weave my way through the viny mess. From twenty feet in I could see the dog's breath steaming as she intently stared down and to one side. She stole

a sideward glance at me and the hawk. We steadily closed. At ten feet a few birds began running. Of course this common tactic sucked the flying lizard I call a Cooper's hawk down into the cover just as the quail flushed and exited the other side. (This has only happened about a zillion times. Will he ever figure it out?) He awkwardly jumped out and began another long

tail-chase. (I do love this hawks tenacity.) Being an experienced veteran of earlier campaigns he steadily climbed to mark where they put in before the long glide to land at the exact spot. After an extensive run I was huffing and puffing while following the telemetry signal to the bird. But wait, he had already caught it. He was mantling over it next to a clump of winter grass. Perhaps it tried to run at an inopportune moment?

After a pinch and a trade we coursed through some tall yellow grass bordering a harvested grain field. All three dogs had gotten birdy and then two were pointing with the third honoring. What a sight! The dog on the left was standing staunch, tall and proud. Her gaze was directed up and outward at invisible scent molecules drifting in from (presumably) some distance. The pup on the right had her muzzle aimed at the smallest of grass tussocks. I opted for the cleaner point on the right. It was a classic flush with the quail getting sucked up into the hawks feet in about ten yards. The hawk got fed up as we kicked back and discussed the sorts of things that falconers everywhere do. Although we continue to hawk well matched native game birds with a local raptor; we both wondered what quail hawking would be like with those fancy European Sparrowhawks. Say. . . wasn't it curiosity that killed the cat?

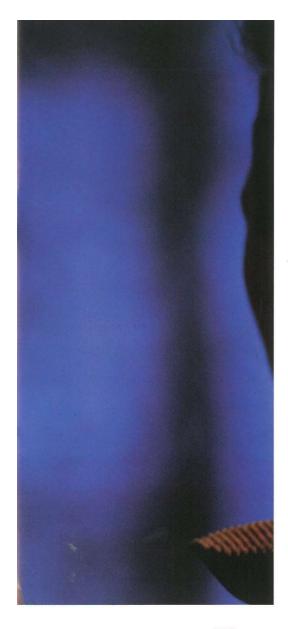
Enjoy your sport... Mike



Mike, Vizslas and Cooper's.



Out of the



By Nick Kester Photos by Seth Anthony

For those with a new hawk, its first summer looks like a time for rest, for doing nothing but chucking in food and watching the feathers come down. At least that is what the books would have us believe.

Obsessive about good health during the hunting season, the falconry manuals offer scant advice about the moult and even less about that strange necessity known as 'enseaming'. As recently as the 1960s one falconry treatise suggests loose moulting falcons in a loft above a barn. Strange how tradition can still outweigh scientific knowledge of aspergillosis, and the problems of dust and lack of air. Thankfully, Phillip Glasier's seminal work 'Falconry and Hawking' warns strongly against such practices.

Today we are better informed - hawk husbandry has never been of a higher standard. So into the skylight and seclusion moulting chamber go our charges and with constant fresh water and correct diet, they become neither too fat nor hopelessly unfit. Whilst we can promise our families more time in the summer, this is not a period of hawk abandonment; they still need a daily check up if only through the spy holes. A great deal of pleasure can be obtained watching a hawk preen after her bath or just seeing where she sits to gain the most of, or protection from the weather. Hawks (not falcons, of which I have little experience) were often moulted out in the weathering and returned to a screen perch overnight. Nothing wrong in principal except constant vigilance is required and the increased availability of family time is negated. I also have a fear that the inevitable bate will damage feathers in the blood, and although hundreds will write in saying they have moulted out on the perch for years, I know that I will become the exception that proves the rule. Josephine Mitchell, who has flown goshawks for more years than many

and who enjoyed regular contact with the best that is German falconry, moulted her Goshawks out on the lawn but gave them an element of freedom by using the 'double perch' method. At one end of the garden a bow perch, at the other a small shed covering a second perch, between the two a tensioned wire rested on the grass. On this wire was a ring to which the leash was attached permitting the hawk to fly from one perch to the other and be either in the shelter and privacy of the shed or on public view some yards away on the bow perch. Josephine recalls that the hawks got used to the arrangement very quickly, bated infrequently and were better manned as a result. But, she does add that she was in attendance most of the time. One suspects foxes and prying eyes were less of an issue in the fifties and



Immature female Redtail hawk.

The development of the moulting chamber with its many variations was a blessing to the family falconer.

For Redtails and Harris hawks this can be open fronted, but I would still urge an area behind which the hawk can retire. Being constantly in the public gaze is as unpleasant for raptors as it is for humans. I also warn against too vast an area which can permit a disturbed hawk to get up alarming speeds; moulting chambers are not breeding aviaries. For parent reared accipiters, seclusion aviaries seem essential, although for those of us who can guarantee no human disturbance some external viewing might be useful. My aviary backs onto fields and I am contemplating a small window high up looking out over the countryside. From this the only distraction, other than wildlife, will be horses grazing and distant tractors. Allowing a thin hedge to grow up will provide a physical and

psychological screen behind which to hide - a bit like sitting in a wellleafed tree.

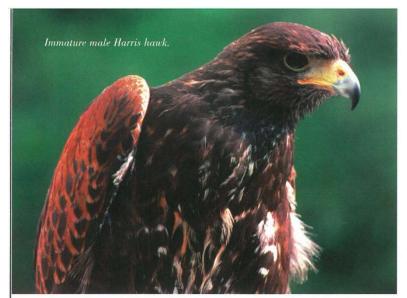
Boredom is an issue. Females should have nesting materials and imprints

should be given the opportunity to display to their owners. My old Goshawk came into condition with a vengeance in April and chased me round the aviary in a frenzy of display. By summer, this will have passed but you will reap the benefits when you need to make maintenance visits such as scrubbing out the bath or picking up discarded food. With non-imprints you will be reduced to doing this at night with a shaded torch, and it still causes problems. Dr Nick Fox also puts anything that might distract or assist manning the hawk into the chamber. This includes suspending tin cans and bits of rag which can be blown by the wind. Quite how he would have overcome my 'Freya's' passionate loathing of horses and women is not explained; the items in question being too large and uncooperative to hang in an aviary all summer!

Visiting imprints in their chambers might make them scream more, but only if fed off the fist. Although Stuart Rossell, having left Steve and Emma Ford and moved to the US, reports many American falconers maintaining contact with their hawks all summer long, including feeding them on the fist. Eyass and first year imprints can scream, and kills are the only real cure.

I had a fearsome screamer of a





Redtail that was completely silent in its third year having nearly caused divorce in its first two seasons. I have equal hopes for my current Goshawk, and so does my wife. But denying them access to you can only worsen the case as the deprived hawk screams for attention inside the aviary as much as it does when you are in view.

Tony Crosswell equates it to locking a child in a room as a punishment; something that can have completely the opposite effect.

Food is important at this time. Too frequently I see hawks overfed when moulting. Jim Chick once gave me essential novice's advice on this. "Put in food every morning but be equally prepared to get it straight out again." If the hawk doesn't come at once to food, then it is not hungry so remove it. For this reason I have a food hatch instead of a food chute and can recover surplus from the feed board quickly and unobtrusively. You might also decide that, in periods of good weather, one day without food in each week is not damaging. Some hawks, especially females with nest ledges, will cache food so its absence from the food hatch is no evidence of it having been eaten. The one-day fast will encourage its consumption. I also have solid evidence of hawks snacking on small birds that stray

into the aviary and on one occasion, a Grass snake. Remember your Goshawk flown at 2lb 8oz (1120g) all winter may now weigh over 3lbs (1344g) so you have plenty of margin and it will not affect the moult.

In the early summer, I feed a lot of quail. It is worth the extra expense as it kick starts the moult, but it also adds fat in substantial quantities and should be reduced later on. Rabbit heads make good tiring, but I bash their skulls with a hammer first as I was once told of a hawk that got its beak stuck in the cranial dome and broke an upper mandible. Quite the best for hard work and nutrition is a whole squirrel, which lasts two days and has the toughest skin of all. I do not fly them but rely on a neighbour who traps them for me.

August is a time of serious frustration, the countryside is swarming with rabbits and your carefully nurtured Goshawk is almost hard penned. Now is the time to consider enseaming, and, whilst more popularly attributed to Goshawks, this object lesson should apply to most shortwings. How many falconers curse overweight Harris hawks and Redtails in September when even a chick head seems to add weight rather than take it off?

Neil Forbes, one of the world's most authoritative raptor veterinarians, points out that reclaiming any hawk after the moult can lead to stress, which leads to illness. Both should



August is a time of serious frustration, the countryside is swarming with rabbits and your carefully nurtured Goshawk is almost hard penned.

be minimised. Birds of prey in captivity (as in the wild) build up internal fat reserves during the summer in anticipation of leaner times. In the wild this will be shed naturally as the year fades, leaving the fittest or the most successful to survive and the residue to perish. To respond to the fist and the lure, and ultimately to quarry, hawks have to lose that fat reserve by the process known as enseaming.

Dave Bowman, an experienced austringer, explains how he goes about it. "I start the process by feeding nothing but rabbit in reducing amounts until she is getting no more than golf ball sized pieces daily. Chicks rarely feature in her diet between then and the end of the season as she will feed almost exclusively on her kills." Dave does this for a couple of weeks and during the process the hawk will become more active in the moulting chamber which helps to speed up the process. "At this time it is more critical than ever to have plenty of fresh water

available, as she will drink more, especially if we have an Indian summer."

During these last two or three weeks, if you have judged it correctly, the reluctant last tail feathers will be fully down and you can think about getting her out. "I catch up at night," says Dave. "Then I leave her alone in the moulting chamber with all the perches removed and tethered to her bow perch." If you hood your hawks, now is the time to do so.

For the next few days, visit her daily to feed rabbit and let her settle to a tethered routine without other distractions. Remember the bath is still critical. As her weight slowly drops, she will tolerate your presence for longer periods, becoming manned in the process. Soon she will welcome your visit and jump to the fist to feed. Then you can consider taking her into the world, and the rest, says Dave, is history.

Or to put it more accurately "in the text books."

Andy Reeve, Keeper of Birds at Whipsnade Zoo, England, has successfully added to this programme of self-manning. Like Dave, he will only visit for food but move the enseamed hawk out into a weathering. But he attaches a section of close weave, green meshed netting (as used in hedging windbreaks) onto the outside of the weathering weldmesh. This gives the hawk a view as through leaf canopy and adds a further stage of security before it is exposed to the world at large.

I once collected an enseamed Goshawk from Andy which he caught up from the moulting chamber at flying weight and which fed on the fist the next day. I can also confess to thinking I had successfully achieved the same process with a subsequent hawk and failing; resulting in considerable grief for me, and the hawk, until she had lost substantially more internal weight. Never again. I have talked to the experts, learned the signs and my hawks will be better for it.

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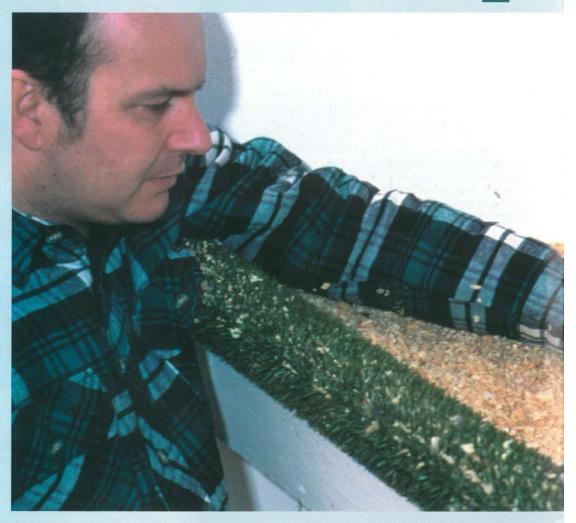
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Modern Capt



Peter Gill, one of the UK's leading breeders interacting with one of his female Peregrine imprints.

ive Breedin

In this and three further articles I will be giving information on the captive breeding of birds of prey. I will be referring to all the major knowledge and practical skills areas. My aim will be to provide a basic grounding.

However even though Seth has given me more space than is often possible in a magazine, it is important to note that only the major points can be conveyed and that in many cases there is substantially more detailed information to be imparted.



This additional information will be available from a variety of sources and if you stay with me until the fourth and final article I will give you some pointers in that

In this first Article I will cover commitment, planning, choice of breeding stock, housing and nutrition.

In addition to being of help to the tyro propagator, I also hope these articles will give some indications to

falconers on how much time, effort, planning and cost is involved in producing a quality eyass raptor. From the falconers' point of view, it is well worth bearing in mind that the quality of the young bird produced by a breeder for the falconer, will depend on the quality of the rearing processes and nutrition used.

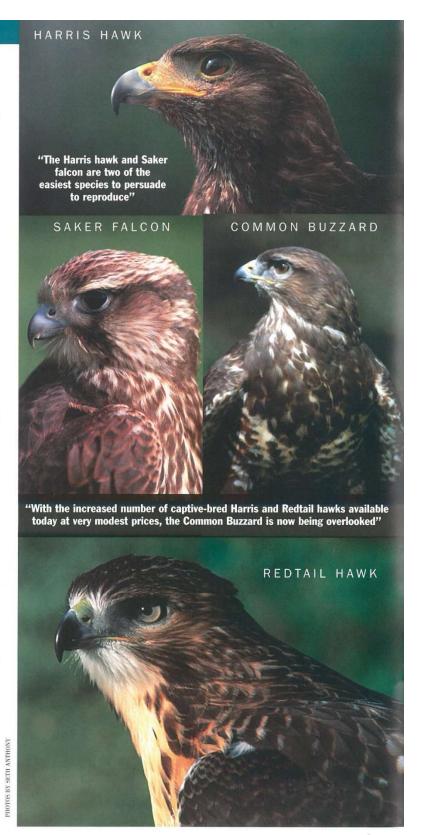
This will translate into the bird's performance in the field later on.

Commitment and Planning

When starting to plan any breeding programme, bear in mind that success is directly proportional to the amount of work, time and effort you are willing to put into the project. It is assumed for the purpose of this series of articles that the raptors you are aspiring to produce are for falconry use, and/or for future captive breeding. Before beginning you should consider carefully before taking on the task of captive breeding. As well as the cost both in financial terms and in time, if you are the type who gets uptight or upset when things go wrong, then this is not the pastime for you. After personally experiencing all the ups and downs (and there are more downs than ups) of captive breeding, it is easy to see why most falconers take the option of not bothering to breed their own birds. During the mid eighties, with raptor prices spiralling, quite a few people jumped onto the captive breeding bandwagon. It seemed an easy way to make money. Many found this was a cloud without a silver lining, and having paid big prices, produced nothing. If financial reward is your major incentive, rather than a by-product of your breeding success, I strongly advise you to invest your money in something else. Also keep in mind that good falconers do not necessarily equate to successful raptor propagators. Although a good grounding in falconry is required, it is avicultural skills, albeit specialised ones, that have to be learnt.

The first choice to be made is what species you intend to breed and by what method of propagation. I will not be presumptuous and recommend a species, as this is purely down to an individual choice. Although no raptors are easy to breed, if from the human angle, you are a beginner then you will find that the Harris hawk and Saker falcon are two of the easiest species to persuade to reproduce.

When choosing a species, the longterm requirement of that species within the falconry community also has to be taken into account. For instance, in the UK the Common



Buzzard has been a primary choice of the novice falconer for a good few years and rightly so. However, with the increased number of captive-bred Harris and Redtail hawks available today at very modest prices, the Buzzard is now being overlooked. So why breed a species that nobody wants? Sure, some people will want Buzzards in the future, but my own 24 year old pair have averaged 4 young per year for the past 20 years and that's a lot of prospective new owners to find, believe me.

It is also worth considering concentrating on those species you are especially interested in, as my view is that if the interest is lacking then results in terms of productivity will reflect this.

Like any commercial breeder of raptors, I have to endeavour to predict what species and in some cases sub-species, falconers are going to want to buy in the future. I must also consider the needs of all of my customers, whether it is a friend from Arabia who wants a Gyr hybrid for Houbara hawking, an experienced falconer in the UK who wants a Gyr hybrid or Peregrine for game, or a beginner who wants a Buzzard or a Harris hawk to make a start.

Initial Breeding Stock

The acquisition of the initial breeding stock is one of the most important decisions to make. My own preference is to obtain young birds and wait for them to mature. Indeed 90% of our stock, which equates to around 100 birds were either bred by ourselves, or obtained in their first few months of life. I can see why the tyro propagator obtains adult individuals or proven breeding pairs to try and speed up the chance of success. In the majority of cases where we have taken this route, results have been poor. If an adult bird is to be obtained, it is imperative that a full history of the bird is known (how was it reared? was it used for falconry? has it been tried for captive breeding?). By obtaining your breeding birds as youngsters you are in control of their sub-adult history and as will be seen through this series of articles, the more control you have the better the

chance of success.

So, the next decision is whether you intend to breed from natural pairs or by the use of voluntary artificial insemination with imprinted raptors. The use of imprints is increasing in popularity with breeders here in the UK but it is fair to state that the main success with imprints has been with falcons, and to a lesser degree eagles, rather than accipiters and

Choice of Birds for "Natural Pair Breeding Projects"

So lets look at methods of rearing young raptors for future 'natural breeding'. In the UK there has been a long history of "fully parent reared is the only way to go!" This is generally understood to equate to young raptors reared from hatch or at least ten days of age, by parent birds in a breeding pen, void of human contact. However my experience is that birds reared in these circumstances are comparatively nervous and "jumpy" in the breeding pen when they reach adulthood. If you do choose fully parent reared birds for a "natural pair" breeding project then you will find that birds reared in seclusion, stand a far better chance of breeding if flown for falconry first. The reason for this is all down to stress levels. It's quite simple, birds that feel stressed in captivity don't breed. This is because hormones produced when a bird feels stressed such as adrenaline suppress the production of sex hormones which are required for the bird to come into breeding condition.

The fully parent reared approach is great for birds destined for a career in falconry such as hybrids, and some birds will of course breed via this rearing method, but when it comes to maximising your chances, the two most productive methods of rearing for future captive breeding

- 1. Rearing by imprinted birds with a certain amount of human contact.
- 2. Hand reared in large groups often known as - creche reared or cohort raised.

Both of these methods will be covered in the 'rearing' section in a future article.

Choice of Birds for **Imprinting**

If the use of imprinted birds is your chosen method, then I strongly recommend that whenever possible you imprint the bird yourself. I keep around 50 imprinted falcons and with a couple of exceptions the ones I imprinted myself are more productive than the others. Other breeders have also found this to be the case. When importing imprinted birds from a breeder, it is worth asking if the breeder has the necessary time available, to imprint



Young female Peregrine imprint.

the bird properly, as commercial breeders in particular are very busy at that time of the year. An alternative is to pay a falconer from the country of export to do it for you. The money will be well spent to receive a bird that is imprinted correctly.

Picking the Individuals.

Once you have chosen the species you intend to breed the next decision is to pick the individual birds. There are two points to take into account. The first of these is a falconry one. For the breeder it is imperative that as much information on the parent birds is obtained on previous progeny produced by them with regards to their falconry successes. Information on size, weight and colour are all questions rightly and commonly asked when people ring us for a falcon. Sometimes people also ask how good its siblings and parents performed in the field, and what style of flight they produced, and in my view this should be a major consideration. This is something we are working to develop at Falcon Mews and as time goes on we will be able to give more and more information in the area of falconry performance. By speaking with the breeder and other falconers who have had experience with that lineage, a close assumption of its falconry style and potential can be made. All too frequently a small difference in the price of individuals swings the buyer towards one bird, but if the individual bird doesn't fit your requirements, it will certainly result in a false economy in the long term.

The second point to consider is the performance of the lineage in the breeding chamber. Again some detective work will have to be carried out. For example some Goshawk lineage's have proven far more productive, with less aggression problems than others, even after being reared and kept under the same parameters.

I find that a lot of our regular customers who are ordering falcons for falconry purposes, order falcons bred from specific parents which have previously produced top hunting performers, rather than just a particular species. With this in mind, the days of pairing any individuals up just because they show signs that they may breed have long gone. I now have to plan specific breedings, to accomplish eyasses of a specific standard. Selective breeding is the only way forward.

The breeding chamber.

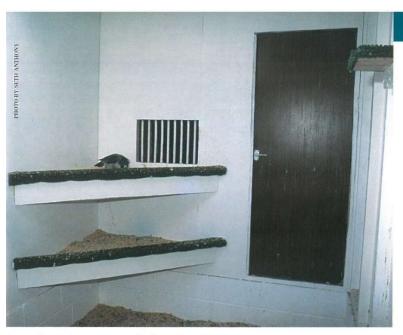
When planning and building pens, it is essential that you check if any planning permission is required. A great deal of practical thinking should be put into planning of your pens and you should aim to think through all of the following: siting, dimensions, access arrangements, building materials, flooring

materials, nest ledge design, perches, food ledges, observation methods, baths, and security needs. Pressure of space means I can only touch on these areas, but some key considerations are as follows:

Siting will depend on your circumstances but obviously major considerations are accessibility for you, and if you can choose somewhere relatively unexposed to the elements so much the better. With regard to size a lot of breeders state very specific dimensions and designs for breeding pens, and the tyro may assume that if these are deviated from, then the occupants will refuse to breed. This is totally untrue. The main requirement is that the raptors feel safe and at ease within their chamber. Dimensions should be down to what you believe is sufficient, strongly taking into account the occupants 'quality of life'. I believe that medium sized raptors, paired for natural breeding, should have a chamber with a floor area of at least 20 x 10 feet and at least 8 foot high and higher if possible. Our imprint pens are all about 12 x 8 feet in size.

We are quickly moving away from the 'skylight & seclusion' type chamber and providing our pens with a window to look out of. The amount of close visual disturbance that is





Our imprint pens are all about 12 x 8 feet in size.

present in your particular circumstance should dictate whether or not you fit a window. The window can be a vertical bar affair or simply a one-inch diameter hole for the birds to view out. A window is still probably not feasible under most circumstances for passage caught accipiters in breeding projects, owing to their nervous nature.

When it comes to choice of materials, this to a certain extent comes down to cost, though of course you must always aim to use the best you can afford, and never use materials which are poor quality or unsuitable for the job. For example fence panels should never be used as they fall short on both quality and strength. We tend to build using concrete blocks and/or exterior plywood. We now only build pens with solid roofs as we find this type of pen more appealing to both the inhabitants and ourselves. This is particularly true when dealing with imprints, as you want to spend time with these birds when you want, and not be dictated to by weather.

Probably the most difficult problem to overcome is the type of floor to use. Earth floors in outside pens can over time harbour disease. Concrete floors soon get green and slimy. Pea gravel seems to be the best answer but is still not ideal. We use dust free pine wood shavings in our inside

chambers. Numerous people who have visited us have questioned the use of shavings on the basis that it may be a possible source of aspergillosis. We have had no instances of this, even with species kept on them that are very susceptible to the complaint i.e. Goshawks, Golden eagle and Gyr falcon. If the shavings are kept dry then fungal problems should not occur. Indeed fresh pine is a natural disinfectant.

Nutrition.

Very little scientific research has been carried out into raptor nutrition. Of all the areas of research needed in raptor propagation this is at the top of the list. The difference between an average diet and one approaching optimal nutritional requirements can be the difference between being successful with your propagation attempts and failure. Sub-optimal diets can manifest themselves via infertility, poor hatchability and weak chicks through to no breeding activity at all and in severe case disease and illness in the adults. Numerous falconers have viewed a general concern that captive-bred birds seem to be getting smaller. This is not something I have noticed in my own birds but enough falconers have commented on this

with regard to birds bought elsewhere for it to be an issue. One answer generally given is genetic inbreeding, but although this could be a reason I believe suboptimal nutrition at the time of rearing, to be a more realistic answer

To the novice, a diet that is as close to the bird's wild prey would seem to be the ideal choice. Well, apart from the problems of obtaining the prey source in sufficient quantities and the health risks associated with wild food, is it nutritionally adequate for the captive raptor? We believe it isn't, for the following reason.

There are around forty known nutrient requirements (and probably more) which a raptor receives from its prey. These consist of fats, proteins, minerals, vitamins and trace elements. In the wild, the energy requirement of a raptor dictates the amount of food, which it needs to eat. So if for sake of argument and as an easy to follow example, a wild female Peregrine eats 300 pigeons per year to meet its immediate energy requirements, which is obtained from the protein and fat content from the pigeons. At the same time it consumes all the vitamins, minerals and trace elements from the pigeons it requires to keep the body functionally correctly. Once the Peregrine enters a breeding pen its energy requirements drop. To fall in line with this drop, and based on my experience, the Peregrine now eats up to a third less food, so it now eats 200 pigeons. The problem is that all the vitamins, minerals and trace elements have also been reduced by a third. It is not known precisely what levels of these the raptor, requires for the body to function correctly, but it's almost certain that this shortfall of a third is far too much.

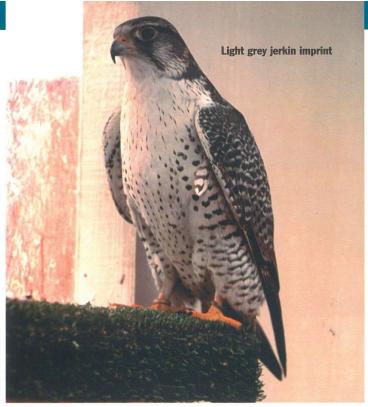
So the ideal diet is one with an energy level which meets the raptors immediate needs and contains all the other nutrients at the sufficient levels required. This is where the two areas of research are required. First, what are the exact requirements of these levels, and second what food source can be produced in captivity and

under what dietary conditions do they need to be fed, to reach the levels required. Of course this is impossible to work out exactly, as the requirements will vary for different species, between sexes within a species, ages of birds, the time of the year etc. etc. But I hope this has provoked some thought on how complex diet is and how far we are from finding a form of optimal nutrition.

With these problems in mind, we are strong believers in giving our birds nutritional supplements. Increased supplementation can be achieved by placing the supplements directly onto the food source, or by feeding the food source high levels of supplements when they are being reared. Of course there is a limit to the level of supplements which the food source can hold in its body. Supplement enhanced quail, are the most often used food source if this avenue is to be taken. It should be remembered that whatever you decide to feed your raptors, the nutritional content is directly proportional to the food which the foodsource has been fed itself. In an ideal world and from a control point, it is better to breed and rear the food item yourself. This may not be practical in most cases, but some investigative work should be undertaken as to how your supplier has reared your food.

We never feed wild food, simply because of the disease factor. It is though possible to go too far the other way. Let's say for example we hand-rear a Merlin on laboratory produced mice. As the merlin has never been in a nest with other siblings and parent birds, and as it has been fed a very clean mammalian diet, will its immune system be strong enough to cope once it catches and eats its first Skylark? A closed sterile system of rearing chicks does not work when rearing birds for falconry. Of course we have to be as clean as possible in choice and preparation of food used for rearing, but total exclusion of germs from the outside world is not possible and not required.

With regard to water, raptors should be given the option of fresh water at



all times. Some females at the egg laying stage will drink regularly, after all, an egg consists of around 70% water.

Most food items have to be frozen and stored, and again great care should be taken with your freezing and thawing techniques. By far the best method is blast freezing. Some food suppliers have invested a lot of time and money to perfect their freezing and storage methods here in the UK.

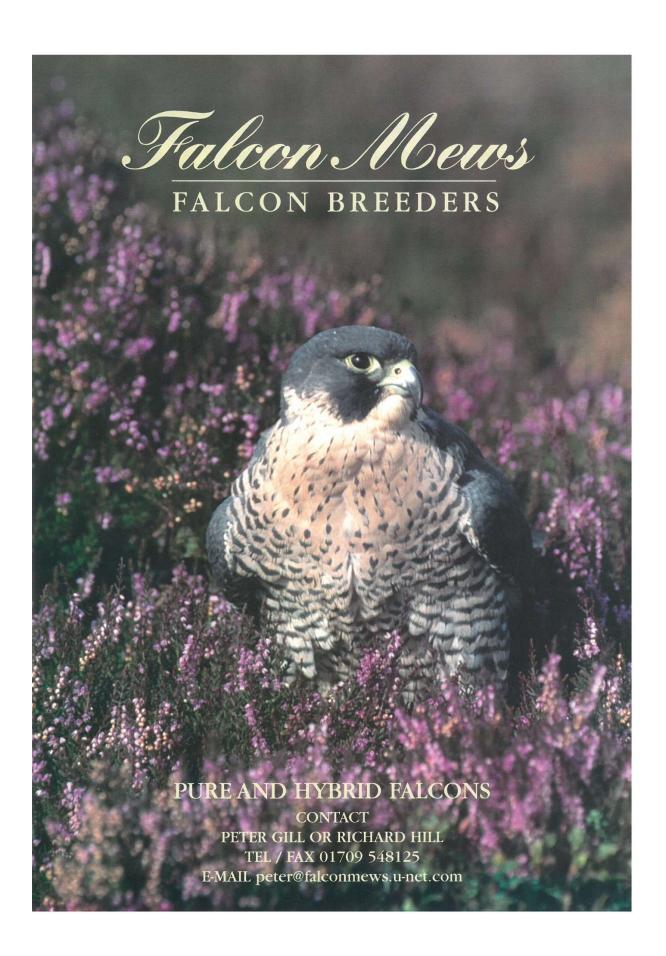
From the point of view of the falconer buying a young bird for hunting, nutrition is obviously crucial as it affects the quality of the bird and its subsequent performance in the field. An eyass Harris with a calcium deficiency which breaks its leg on its first hunting day out, means a ruined hunting season as well as being heartbreaking from a personal point of view. In extreme cases problems can occur even before the bird gets to the field. Some propagators go for the cheapest option where nutrition is concerned, and the results can be seen when observing their progeny, if they have managed to produce any. A simple test as to whether an eyass has

received enough calcium in its diet, is to run your finger the whole length of the breastbone. If any bends or chinks can be felt, particularly towards the bottom of the sternum, then this is a positive sign that the calcium level received during its growing period was insufficient.

Some Concluding Thoughts.

With the proliferation of raptors, bred and offered for sale each year, it would appear to the ill informed that all aspects of raptor propagation are straightforward and any initial problems have now been totally overcome. This is far from the truth. After breeding various raptors for twenty years and reflecting on all the information and experienced gained, there are still questions to be answered. More research is needed, particularly into areas such as nutrition, and hopefully Falcon Mews and other breeders will have the opportunity to carry out this research in the future.

In the next article in this series I will be covering breeding behaviour, and voluntary and involuntary artificial insemination.



High Desert

Story and photos by Charles H. Schwartz



Above: sage grouse roosting in snow.

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Grouse



Main picture: Wyoming grouse country.

It is late January on Idaho's high desert; a crisp, cold Saturday afternoon. Tom Hopkins and I are standing atop a long bulge of black lava somewhere in the middle of a thousand square miles of undulating, snow covered rock and sagebrush. We can see the tips of the Tetons over in Wyoming, a hundred miles to the east. The Continental Divide peeks above the horizon's northern rim while the Lemhi, Lost River and Pioneer ranges march in staggered southerly lines to the west. Clarity, distance and silence gather beneath the icy blue bowl of cloudless winter sky. We are utterly alone.



"Point!" Tom drops his binoculars and raises an arm.

I search without seeing, unable to differentiate the black and white dog from the dark sagebrush and drifting snow. Anxious to know, to be a part of what is happening, I sight down Tom's outstretched arm and blow two sharp blasts on my whistle. Three hundred yards out, Mac moves forward, revealing his position.

"Got him."

Mac's head, back and tail are arrow straight, as if an unseen carpenter held an invisible straight edge along his spine. Scottish birth and ancestry not withstanding, Mac knows how to handle American sage grouse. His job is to search relentlessly and point unfailingly, for without his skill we would be on a fool's errand in this vast country.



"What do you think?" Tom asks.

"It's been awhile since we've seen him, so he's probably in tight to the flock", I reply. "They might be jumpy. Let's put Jalad in the air and then walk in and steady him up."

I loosen the braces on the burnished leather hood and slowly remove it from my falcon's head. Her black eyes take in everything in an instant. I hold the big Gyr/Peregrine hybrid aloft and she rouses, then opens her wings in anticipation of flight.

"Watch Jalad, Tom."

I give two toots on the whistle and Mac moves another yard. Jalad's head jerks around, her gaze focusing instantly on the distant dog. She becomes visibly excited, stroking the air with her wings while clinging to my glove with her massive vellow what is about to unfold. I catch a International Falconer May 1999

feet. It seems clear she understands

predatory gleam in Tom's eye as Jalad leaps into the cold, clean air.

Extended, "falconry only" seasons for upland game are allowed in most western states. These special seasons offer outstanding opportunities for hunting sage grouse with large falcons and wide ranging dogs. The regulatory agencies recognise that falconry provides high value recreation with insignificant biological impact on the resource

Falconry bag limits are typically a fraction of what gun hunters are allowed but the seasons are longer, often extending through the winter. With a typical limit of a single grouse per day, one might ask, "Why bother?" The answer has to do with that elusive intangible of all serious hunting: quality.

Tom and I watch as the falcon flies straight at Mac, confirming our belief that she knows what will happen next. If the dog flinches and the grouse take flight, the hunt will degrade into direct pursuit as the departing birds suck the falcon out of sight. But Mac holds solid as Jalad whizzes past his head. She never looks back and to the uninitiated it would appear her intent is to reach Montana by nightfall. A half mile out, she makes a wide turn and comes back at an alarming speed; climbing, always climbing.

"What about Bonnie?" Tom has been standing on her leash and bends to retrieve it. The lemon and white bitch shivers at the sound of her name, her vibrations jingling the brass snap. Tom laughs at her eagerness.

"Yeah, sure. Why not? She'll confirm and do a better job on the singles.'

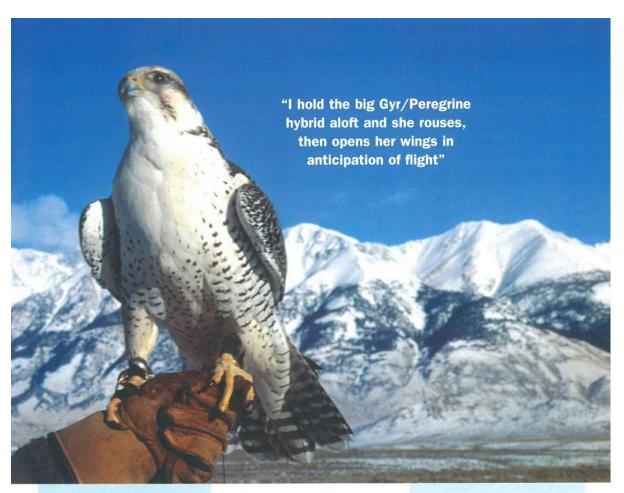
Tom slips her lead and Bonnie is off like a bullet. Now our commitment is complete. Only falconers assume they retain control over situations as shaky as this.

We fan out to cross the low basin separating us from Mac as Jalad mounts in uniform spirals overhead. The falcon's presence cautions the nervous grouse, helping to hold them as we hurriedly leap and weave through the rocks and sage, slowing only when we mount the opposite side.



Above: 'Jalad', nine year old Gyr/Peregrine. Left: 'Mac', English Pointer with radio collar. Below: 'Bonnie', English Pointer.





The race and point of the dogs, the well-timed flush of the grouse, and the impetuous stoop of the falcon are all essential for successful game hawking. The moments leading up to the falcon's plummeting fall through empty space mean everything to the falconer. All thoughts of the past or future vanish as the frozen pointers and hidden grouse hold time itself at bay. Falconers luxuriate in this exquisite now, unwilling to upset the delicate balance of beating hearts. They are connected through their dogs to the grouse, to the desert and to the timelessness of the hunt.

Tom is young and his vision is keener than mine. His head is tilted back as he turns slowly in a circle with his hands cupped to shield his eyes. The falcon is somewhere high above us now. I walk quietly to the top of the rise and find Bonnie first. She is standing on tiptoe, her nose and tail high. Unlike Mac, her ancestors are from American field

trial stock. No Scottish blood flows in this pointer's veins!

"Whoa, girl."

Her high chin tells me Mac and the grouse are further on. I find his white tail sticking straight out from a thick patch of sage thirty yards ahead. He is in a low crouch with his head cocked slightly to one side. He's got 'em! Tom points at the sky but I cannot find Jalad. I shake my head and silently point first at Bonnie, then at Mac. Tom acknowledges with a nod.

I steady Bonnie with a stroke and a word and then creep carefully toward Mac. Tom is watching the sky, his sharp eyes set to follow the falcon's fall. Mac shudders as I bend to stroke him. I turn and walk backwards away from him, into the cone of scent, my hand held high to "whoa" the dogs and my head cocked back to scan the sky. I hear the sounds of flushing and turn to watch as a dozen grouse rise in

Hunting sage grouse with large falcons is one of the great challenges of American falconry. Grouse country is often remote and always stunning. Immense areas of public land require fit, well trained dogs, usually pointers or setters, to locate the birds. Because of their size, sage grouse are difficult quarry at any time of year, but in the winter they are at the peak of their powers. Adult male sage grouse weigh twice as much as the largest of falcons, and game hawks of all species, including female gyrs, have been known to kill themselves in high speed, aerial collisions with them. The endurance and speed of winter sage grouse can be unbelievable at times. Birds are often struck down in the stoop, only to recover and out-fly the falcon. A determined falcon may tail-chase a feathered grouse for several miles. Because of the quarry's size and speed, hard hitting gyrs or gyr hybrids are often preferred by falconers who hunt sage grouse routinely.

rocking bursts of acceleration. The flock is a hundred yards out before I spot Jalad streaking across the sky, her wings half folded as she pulls in beneath the group and brutally rakes a trailing cockbird. The grouse falters, folds, and tumbles to the desert floor. Jalad pitches up, her talons streaming feathers.

The falcon settles to her prize as Tom and I remain in place. The dogs glance nervously to either side as if unsmelt grouse might leap up at any moment. Tom and I have been here before and know that it ain't over til its over, so we hold our positions. In a few minutes, Jalad hops to the top of a bush. I leash up the dogs and we walk over to where the grouse fell. The dogs stop and point a strange depression in the snow. The miniature crater is surrounded by falcon footprints.

"Look at that, Tom," I whisper.

Tom grins and gestures that he will leap on the spot but before I can stop him a perfectly sound grouse bores skyward, spitting snow.

Completely at the disadvantage, Jalad leaps up in pursuit, but the big grouse is too fast and escapes with ease.



"I thought sure she killed it," Tom says.

"Yeah, me too. But these are winter grouse and they know how to use the snow. That cock wasn't even stunned. He simply weighed his chances and chose a deep drift over trying to out-fly Jalad. We bought in to the easy kill, just like 'Jalad did."

"Amazing!"

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We watch the falcon flap and glide in clumsy circles a quarter mile off, looking for what falconers call 'good air'. Eventually she spreads her tail, hooking her wings into a weak winter thermal. Now she can rest on the rising air as we look for more grouse. By the time we unleash the dogs and whistle them off, the falcon is a circling speck drifting southward. We turn and follow the dogs into the northerly breeze.

Tom and I follow the dogs north through deeper snow and rapidly fall behind. The dogs flow across the

Hunting with big running dogs in remote country, especially in the dead of winter, is not without risks. If you lose a dog, no one is apt to come along and recover it. A breed with short hair left out overnight in subzero (F) weather may die or at best be recovered with a dangerous case of hypothermia.

The lone falconer is also at risk. A hard fall in jagged lava can be incredibly unforgiving. A twisted ankle or a broken leg may mean a long crawl back to the truck. Late afternoon snow squalls can be disorientating, leaving dog, hawk or falconer stranded after dark. I remember my falcon pursuing a grouse into a winter fog bank. The dogs and I followed and eventually I shouted her out of the soup and onto my glove. By then the fog was so thick that the only way I could find the truck was to back track my own trail. The dogs were there, waiting.

When hunting in country that is new or unfamiliar, experienced falconers often use telemetry collars on their dogs. These electronic leashes not only reveal the dog's location, they determine whether it is pointing or running. Telemetry can be excellent insurance when hunting alone. I have often left a ticking transmitter on top of my truck before striking out cross country in search of a wayward falcon. The utility of this practice becomes more apparent after dark. Most importantly, telemetry releases the modern falconer from the ancient paradigms of falconry. He can allow his hawks and dogs the freedom to explore the very edges of their genetic dispositions, without fear of loss. It is this capability, when coupled with ready access to gyr hybrids and vast expanses of public land, that has fueled the evolution of American sage grouse hawking.

ridges with a singleness of purpose that quickly takes them out of our sight. Somewhere downwind, Jalad is rising on the currents, watching us with her incredible eyes. We cannot see her but we trust that she is there.

Another ridge rises like a long, dark swell above the rolling sea of snow and sage. We climb to the top and stand and blow. Tom unslings the receiver from his shoulder and begins to assemble the directional antenna as I search for the dogs. Bonnie is good about checking in and when she doesn't, it usually means we have a point. We don't want to walk past the dogs. Tom listens to the hiss of static as he turns slowly in a circle. The receiver beeps rapidly when he points the antenna north.

"Mac's on point," he says.
"What about Jalad?"

Tom flips a switch, adjusts the tuning and lifts the antenna to the sky. The receiver responds with the loud pulsing comfort of the falcon's transmitters.

"Dead overhead," he reports, leaning back to peer straight up. But even Tom's eyes cannot find her.

"Let's find Mac and Bonnie."
I tell him. "Jalad will wait."

Tom fine tunes the gear until he has a tight fix on Mac's radio collar. He picks a mark on the next rise and we walk to it, the signal growing louder as we go. Both dogs are on point beyond the crest.

"Now what?" Tom wears his wicked predatory grin again.

"Let's do it together," I reply.
"I'll handle the dogs and you
make the flush. Then we both
can watch."

I crouch beside the dogs as Tom creeps slowly on, searching the snow around him. His intensity mirrors that of the dogs and for a moment I want to 'whoa' him. As always, the flush comes unexpectedly with grouse popping up everywhere except where you thought they would be. Our heads snap back to scan the sky; listening, waiting. The grouse drill up and out and just as it begins to seem as if nothing is ever going to happen, a building hiss fills the air.



"Here she comes!" Tom shouts. "There!"

A white wedge of folded falcon, almost three pounds of feathered muscle and bone, recklessly plummets earthward at incredible speed, the height and velocity of her vertical fall shrinking our perceptions of the departing grouse. Jalad twists twice on her way down, lining up on an outside bird and driving through it with suicidal commitment. The solid sound of her strike reaches us a second after we see the grouse crumple and fall. Jalad pitches up dramatically, marking her quarry in the snow, then winnows down carefully, ready for wiley grouse tricks. There are none. She is ripping feathers from its breast by the time we reach her.

The dogs snuffle around the grouse and Jalad hisses as Bonnie crowds too close. Tom has to speak. Like me, the image still burns in his mind.

"Awesome..."

"Yeah..." I reply. What else could I say?

Tom fusses over the dogs as I feed the falcon, giving her her natural due, a full gorge for a successful flight. I let her eat both legs and the grouse's steaming heart. Its breast will be our

Walking back to our truck along a snow free spine of rock with the dogs at heel and the falcon a half pound heavier than when we began, we stop to look around. Two vertical pillars of refracted light, like broken pieces of a rainbow, bracket the afternoon sun, softening the crystalline quality of the air like two distant, multicoloured fires.

The desert has a solid, arctic rigidity this late in the day; as if the atmosphere might momentarily turn to ice. Beneath these magical sundogs, the Snake River Plain stretches southward, unmarred by road, fence or human abode. A coyote barks nearby as seven grouse sail past enroute to their evening roost. We watch with Mac and Bonnie until the penetrating cold and thoughts of dinner urge us home.

Game Hawking Tactics

Our first quarry to be featured in this series is to be the pheasant. Both cocks and hens provide excellent opportunities for the falconer to set up the type of slips that are essential for quality waiting-on flights.

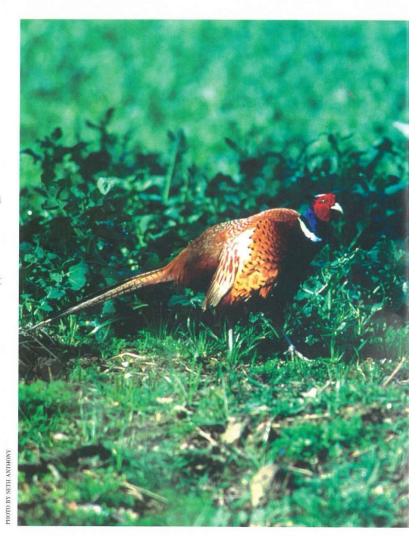
The cock, apart from being the gaudiest of our lowland gamebirds is also the most powerful and probably the coolest and the craftiest too, only losing his nerve when under the severest pressure, yet even then relying on his strength to preserve his life - and often succeeding.

By Ray Turner

This is the first of four flights selected from Ray Turner's book 'Gamehawk'.

Each flight being a typical example of gamehawking and chosen to give the fledgling or would-be game hawker the briefest preview of what they might expect to experience in the field themselves.





A Christmas Treat

27th DECEMBER, 1988

"The longer it takes to flush the more necessary it is to have a falcon that will hold her pitch."

fter finishing another Christmas lunch and pushing aside the increasing pile of notes optimistically referred to as "the book", I glance at the clock that tells me it is time to look for a flight. The mild weather continues. Today is warm, the sun is bright, and the wisps of high cloud above us barely move.

There have been too many walkers on our ground during the holiday period and pheasants are hard to find. We drive to an isolated pond. The ten minutes spent stalking it prove a waste of time; there are no ducks present, only a lone moorhen.

Soon the Landrover is heading back to the fields and the eye is once more scanning for pheasants or partridges against a background of raw earth. This very open part of our ground, with wide fields separated by straight ditches, frequently provides straightforward uncomplicated opportunities to fly at game. It is ideal for training a high flier, and later for keeping her on form. We turn down the slope along the tarmac drive that leads across the shallow valley to the house. As we cross the ditch in the bottom, a by-now automatic backward glance from the driver picks out a pheasant standing twenty-five yards from the tarmac drive and next to the tall hedge flanking the ditch. The vehicle has scarcely stopped before the pheasant is into the ditch and the runner from our party is making a dash to a point on the ditch well beyond the pheasant, putting it between him and the tarmac.

Within seconds we can feel confident that even a Houdini amongst pheasants would be in trouble now. What a set-up for a flight! We can flush him at will, and relax, leaving the falcon to take her absolute pitch, and

without feeling the pressures that come when operating in large patches of cover.

The sun, a large red ball, stands near the horizon, sharpening my hunting instinct. Nature can give no clearer signal to her day-time hunters - time is short! The falcon feels it too and is gone.

She pumps strongly and purposefully into the distance, rising all the time. Just as I am beginning to worry (is she flying something?), she turns sharply and is heading back. She crosses over us and continues to gain height on the other side. Once more she returns and now begins to ring up above us. When she has been flying for some minutes and has reached a pitch that could be rated as her best average, the old warrior knows that extra height would be unnecessary and sets her wings. In the relentless pursuit of higher pitches we call to her: "Go up!" She responds amicably by continuing to beat but is not seriously trying to improve her pitch. We accept her decision. With twenty yards of ditch to cover, the spaniel is told: "Get in!"

My gaze is on the falcon: her gaze is undoubtedly on the dog. I only hear the charge of the spaniel as she splashes frantically along the ditch, and I think, "Any second. Any second."

It should have been out by now. What's happened? I remove my eyes from the falcon and look back to the dog just emerging from the ditch. She runs along the opposite bank towards me, but still finds no trace of the bird. Cally jumps across the ditch, in front of me, and I look up for the falcon, fearing that the short delay may have caused a loss of pitch.

To my surprise she has gone even higher and is coming in exactly right. I hear the familiar clatter of a pheasant breaking cover above the excited note of the falconer's cry, but nothing can draw my attention from the falcon as

she seems to shrink into herself and fall towards me. Her downward path barely moves from the vertical and I know that the pheasant must have flown an arc around the falconer on the opposite bank. Falcon against sky changes to falcon against scenery as the trajectories of falcon and pheasant draw together. The falcon has chosen to bind and comes in from behind, taking the cock by the leg. He hangs beneath her, thrashing his wings, as the falcon tries to control their descent.

We run to her. It would be no surprise if the cock, in his desperate efforts, succeeded in escaping, but when we are within yards she manages to find his neck with her spare foot and the cock concedes defeat.

When our excitement has abated and the falcon is feeding, I notice that the sun is now resting on the horizon. Within moments it has gone.

TOP TIPS

- 1. Pin pheasants closely between two people in ditches or 'surround' them in isolated patches of vegetation without escape routes. Act quickly.
- 2. Pheasants hold in direct proportion to their perceived view of the safety offered by the cover that shelters them.
 - Bear this is mind when planning a flight.
- 3. A clever dog flushes more efficiently than a falconer and allows you to witness the stoop properly rather than thrashing about in the brambles and looking very un-cool.

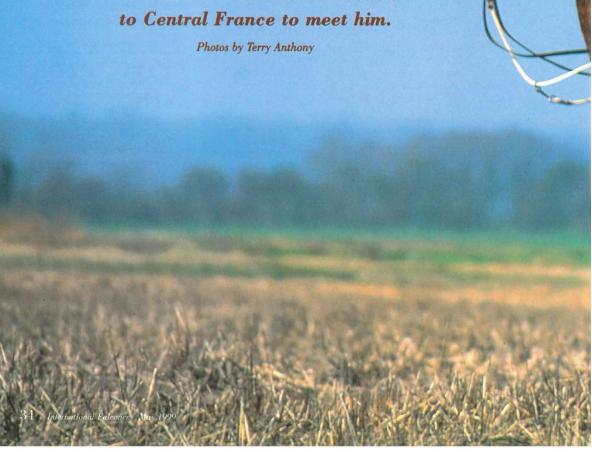
Interview with a Rook/Crow Hawker

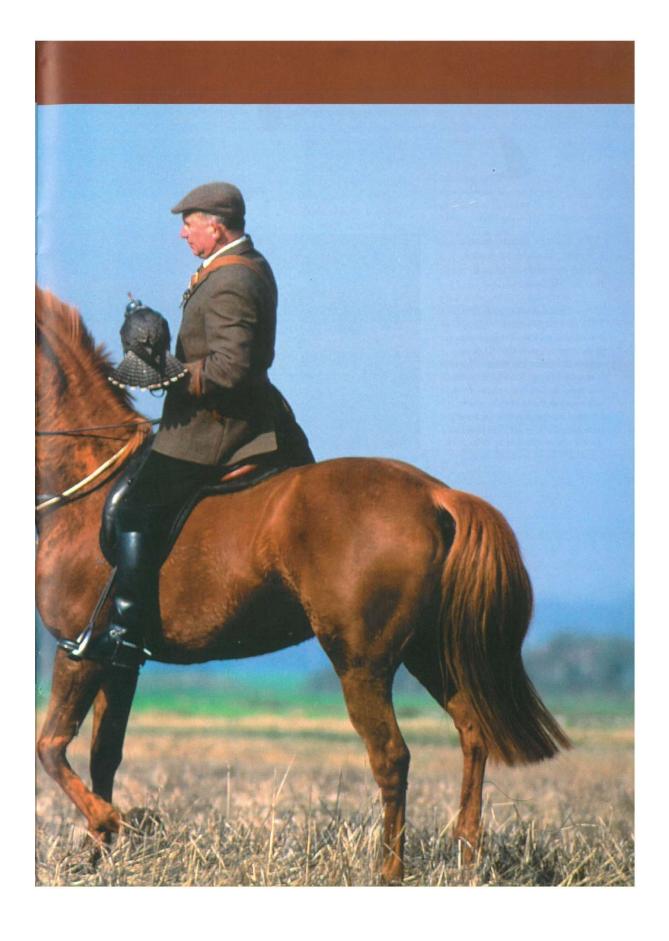
The 'high flight' or 'le haut vol'
at rooks and crows from horseback
must rank as one of the most
exhilarating and exciting forms of
falconry available today.

Very few falconers however are
fortunate enough to be able to pursue
it in this classical way.

Henri Desmonts, a Frenchman,
is one such falconer.

International Falconer travelled
to Central France to meet him.







So Henri, what made you decide to hawk these corvids and when did it all begin?

I began 'le vol de la corneille' in 1984 after three seasons of game hawking. It appealed to me because at the time the partridge hawking season in France was shorter than it is now and the rook and crow season was much longer. I am also only interested in flying at wild quarry. I started hawking 'out of the hood' from horseback in 1995 to learn shortly afterwards that in 1990 Nick Fox had already founded the 'Northumberland Crow Falcons' which are also flown from horseback in the north of England near Hadrian's Wall.

Tell us briefly about the birds and some of the differences.

The rook (Corvus frugilegus) is a common corvid with a glossy black plumage, approximately 45cm in length. It usually lives in flocks which can sometimes be very big, up to several hundred in size and is very dependant on rivers crossing arable land. Mature birds are most easily distinguished from crows by the pale area they have around the base of the bill. They nest in colonies at the tops of high trees, often in parks and towns and go feeding in the fields.

Crows (Corvus corone) are slightly bigger birds, around 46cm in length and tougher than rooks. Territorial adults usually live in pairs. Immature and non-territorial birds are slightly



Henri is joined by Madame Valerie Planson for her first experience of hawking rooks and crows from horseback.

smaller and live in small flocks. Both are very fond of eggs, especially game birds and ducks, territorial crows being ready to raid every nest they can find. Good management for game begins with corvid control. This is why it is not too difficult, with a little diplomacy, to get permission to fly these 'black birds'.

Do you use much land to fly rooks and crows and what kind of terrain is required?

Both birds are extremely intelligent, and if flown too often will stay in unflyable places. If hard pressed by falcons, corvids will take shelter in any cover such as trees, bushes and buildings. Generally, the more open and devoid of cover the ground, the better the sport.

Through the hospitality of friends, I enjoy sport over several hundred thousand acres (for partridge

hawking the hospitality is much reduced!). In search for a slip, one must be very aware of all dangerous hazards the falcon might meet such as power lines (I have had several birds electrocuted), barbed wire, busy roads and cows (it has been known for a falcon to be trampled by cows when on a kill).

What falcons have you found to be most suitable and do you use any special training?

My experience with sakers or part sakers has been very disappointing, yet Nick Fox is very successful with his part saker hybrids. Peregrines can be very good; so are the Gyr/Peregrine hybrids. My two best rook hawks have been 'Hic et Nunc', a Gyr/Peregrine tiercel bred by Diana Durman-Walters and 'Windy', a Peregrine falcon bred in France by Jacky Feidt.

Passage and 'hacked' birds are considered superior, yet both 'Hic et Nunc' and 'Windy' are chamber raised. The important thing is not to use too big a bird. A falcon weighing over 900g (32oz) scares the prey too much, making stylish flights more than rare. I have found that Gyr/Peregrine females can be readily entered to corvids as soon as they are coming to the lure from about half a mile; but they are too big to show real sport. Small falcons might be difficult to enter. Some falcons, after a hard battle or two with crows. keep an interest only for rooks; 'Windy' is one of them.

Most of the training does not differ much from the classical training of a falcon.

What is necessary (as the greatest part of the rook and crow hawking season takes place when the killing of game is illegal) is to ensure the absolute wedding of the falcon to the 'black birds'. Feeding up on the first kill and flying every other day is

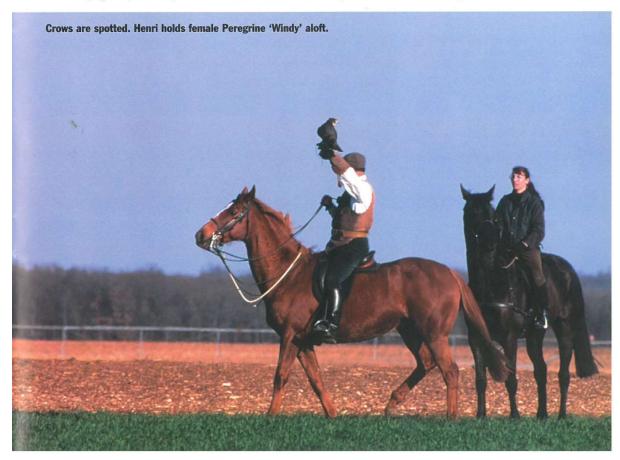
usually enough to ensure good behaviour. Of course, before the falcon can be considered to be reasonably safe, one has to be extremely careful in reflushing rooks or crows from cover in order to prevent accidents with grey and red-legged partridge.

You are one of very few falconers these days who still hawk from horseback. Perhaps you could tell us more about it.

The horse gives the best approach to the flight 'out of the hood'. It is very exciting to gallop following your falcon, shouting and turning quickly to reflush the quarry from a bush, to gallop on to the next cover, screaming and waving your cap, trying to persuade the quarry to seek its safety in the sky rather than on the ground. I believe that the horse was the main contributing factor to

many a high ringing flight in the past, as a bird that has been expelled once or twice from tree or bush by the cavalry, will be more likely to endeavour saving its life by flying high into the sky.

As a war horse, a good horse for hawking must be as mobile and as fast as possible and possess both qualities at the same level. I look to thoroughbred or nearly thoroughbred horses from good racing stock, or ex-racehorses, which have been trained at dressage to a reasonably good standard. They must be good out of doors, sure footed and have good sight. At the present time, I ride 'Shoalie', a ten year old thoroughbred mare which I also exercise in dressage. I am also breaking 'Haprilia', a nearly thoroughbred, three year old French saddle filly which I hope to hawk with when she is five. From what I have seen, a good cutting horse if fast enough, or a polo pony would also be a good choice.



The training of the horse to accept the falcon is not too difficult. Show the bird to the horse with a good bucket of oats or corn, if the case is difficult make gentle use of a cavesson*.

Don't make the bird (hooded) bate too much during the first few days. With the cavesson and an assistant, exercise absolute steadiness while mounting from the right side of the horse if the falcon is carried on the left fist, as advised by Emperor Frederik II. Luring from horseback is a bit more tricky and 'Sholie' resented for a long time the blows from my first clumsy attempts.

The *musts* when hawking from horseback are a small mounted field of reasonably reliable horsemen (a falcon on his kill will suffer from a stampede) and a rescue crew in a car, preferably four wheel drive.

Describe for us the kind of flights that might be expected.

Most classical authors set great value on the high ringing flight, 'le haut vol', where hunter and hunted try to dominate and win by flying higher than the opponent. These are in fact few in a season but both crow and rook can provide them. Very open ground is necessary. A good plan is to have members of the field guarding the possible refuges for about one mile on every side before casting the falcon.

If there are small trees or hedges, a good waiting-on falcon with a moderate pitch, can provide good flights, as long as the field proves itself both active and alert in reflushing the quarry at the right time; corvids are amongst the most intelligent of birds.

An experienced falcon cast from very far, three quarters of a mile to a mile, will mount very high, shepherd the flight of rooks and after one or two false dives make a tremendous stoop and kill. Another will mount

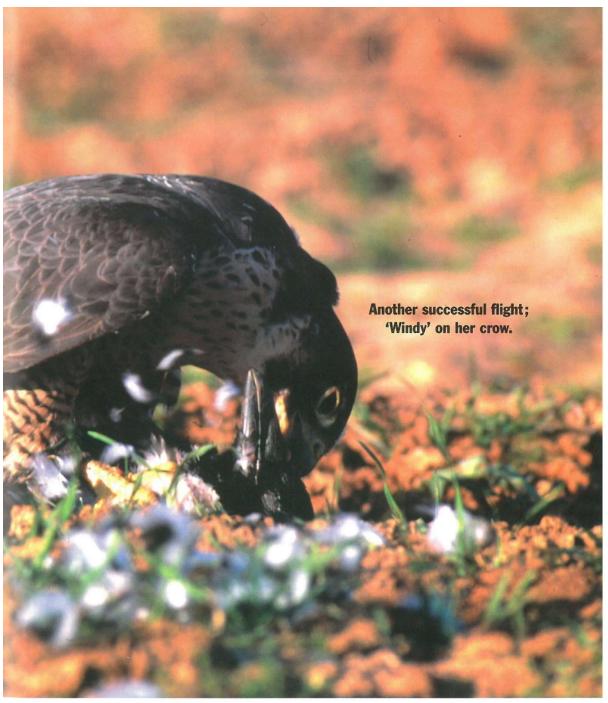
 * Cavesson - a bitless bridle traditionally used to break in horses,

directly to a bird on passage, dominate it, bind and slowly glide down to the ground. Another falcon will turn to have the sun on her back before flying to the flock of rooks.

Extreme diversity is the word when describing rook and crow hawking!

Do you follow the usual advice of casting dead into the wind?

Experience shows not to be too dogmatic about the matter. If the only cover is upwind and if there is a



very wide open space downwind, it might be better to cast the falcon from upwind, the corvid will easily shift from the first stoop and the birds are set for a ringing and mounting flight. Some of the very best high mounting flights I have enjoyed were the result of such heretical management. In my opinion when selecting a slip the things to look for are :

- 1. The safety of the place for the falcon.
- 2. Possible refuge for the quarry.
- 3. The sun. A falcon cannot spot the quarry against the light.

4. The wind.

Providing the above points are O.K. an upwind slip is nonetheless preferable.



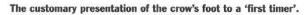
Describe to us some of the essential gear.

Telemetry is a must with flights which may end miles away from where they started. The French firm E.R.F.D. has developed a very compact receiver which is easy to use when either on horseback or driving a car. I fly with two transmitters and no bell. All my birds have Aylmeri anklets which are used with glove jesses. The lure is about 400g, well padded, and used with a short line if on horseback. It is garnished with dried rook wings and works for rook hawks as well as for game hawks, with the same black wings. I use a traditional falconry bag, with a special place for the receiver, held by a shoulder strap and a waist belt when hawking from horseback and a fly fishing waist coat when on foot with car, as I do for game hawking.

Field glasses are more necessary than in any other kind of hawking. Walkie-talkies would be of great help but their use is illegal in France.

Do you see much of a future for rook and crow hawking and in particular for hawking from horseback?

Rooks and crows are vermin and can be hunted all year round. In France, a special licence, reasonably easy to get at no cost, is necessary to hawk from March 1st to the beginning of the season in autumn. Of course permission from the land owner is necessary. When I began flying from horseback the set-aside was fixed at 20 per cent of a farm which made things easier as it was possible to gallop. Now, one has to choose very open countryside with tracks or dirt roads – and corvids in the right place. These are difficult to meet in the same place the same day. Luckily the use of live Eagle owls for bringing in corvids to hawkable areas should become legal again in France during 2000. This will enable us to choose our ground more carefully and to learn or re-learn new tactics.







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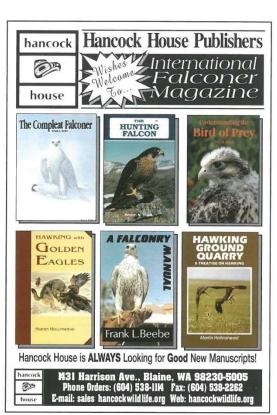
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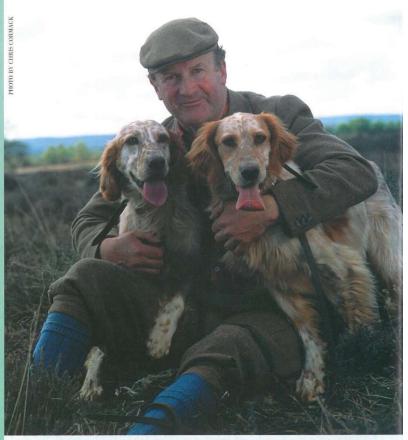
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By Derry Argue

When I was in my twenties and my interest in falconry had matured I quickly realised that I would get nowhere without a good dog. This was familiar territory. I had been brought up with working dogs and was hunting a pack of hounds by the time I was seventeen. I made it my business to visit every top professional breeder and trainer of pointers and setters in the country and because I could make myself useful I soon found myself adopted by John Nash, the Irish Red Setter authority.



Derry Argue and two lemon belton Liwellin setters.

n falconry, you will get to see a lot of sport if you volunteer for that bestial task of cadge carrying. In the gundog world, the equivalent of this refined form of torture is to lead spare dogs. Out training, I shared that task with Dinny Fitzpatrick, a quiet unassuming Irishman, and we would sit together on some heathery bank and watch while John took each young prospect through its paces on the Irish mountains. Dinny would take on any young dog John was having problems with and I believe he was a very skillful trainer. John was a great handler and an expert at showing a dog off at a field trial but he was not the greatest trainer contrary to legend. As we watched the dogs working, Dinny would

explain what each dog was doing; why it was doing it, and whether it was working correctly or not. I learnt a lot from Dinny.

The first thing I learnt was not to think of a dog as a TV set or a car but as being an individual. A living thinking individual with a limited and different view of the world to what humans see. Members of the same breed or strain may be similar, as people of the same race or family are, but they are not built to a specification. We may be what our genes determine but our attitudes and perspectives are shaped by our experiences. This was brought home to me by an enquirer who remarked of pointers, "They are meant to point, aren't they?" His question inferred

what a lot of people think. You buy an expensive pup from a top breeder off the best working lines, carefully rear it at great expense, buy the best dog foods, exercise it regularly, take it to the vet for its inoculations, then off to training classes, and perhaps watch a few field trials.... and then to Scotland on the 12th. On the grouse moor, the dog doesn't even run. And then, a week later, when it does run it chases sheep. When it sees grouse, been cheated. They're meant to point, aren't they?

Let's start again from the beginning. Unless you believe that God created the world in six days you probably accept Darwin's explanation of evolution. Those living creatures that find a niche in the ecology of the world get to reproduce and to survive. Those that don't die. It's a very simple formula. That accounts for the diversity of species. Just open a dog's mouth and you immediately see canines for gripping and tearing flesh, carnassials for cutting muscle and sinew, and molars for grinding bone. There is no doubt about it, the dog is a predator - just like your hawk or your falcon. A predator lives by killing other birds and animals and eating their flesh. It prefers to be a specialist because being a successful predator depends on being as near 100% fit as possible. It's risky taking on prey it doesn't understand. Efficiency is vital because if it does this killing thing well, the risks of getting hurt during the attack are minimised and hunting can be directed in that single pursuit. The specialist has a better chance of survival because it conserves energy and reduces risk. Why should that young dog know that it is required to hunt grouse? How should it know that grouse can only be located by scent? Or what grouse smell like? Or how close it can get to the birds before they fly off? Or that it can only hunt efficiently by crossing the wind? isn't it more logical, to a dog, to chase a hare which it can see and which it has (in its mind) some chance of

catching rather than a bird which flies off? And all that shouting and whistling by the owner - isn't that encouragement? And when Dog gets a beating for returning to his owner after a fruitless chase, wasn't that for failing to catch the hare? That must be it! In dog language, there is no other rational explanation.

'That body language it chases them too. Of course, you've is fascinating and once you learn to look for it, dogs talk to you all the time'

Watch several dogs together as a pack and you begin to understand. One barks and the others come to see what all the excitement is about. Another walks off, stops, looks back, then walks off again. Dog language for "follow me". Then there is gait. A change in the way a dog runs is another way of sending a message. One dog catches and eats a bird or small mammal. The rest of the pack or group crowd around to sniff and smell what it is its eating. The bitch brings prey back to her pups. They learn to recognise the smell of the prey they should hunt. Later, mother will return with prey but make the youngsters pursue her before giving it up. The pups will locate by sight but also by scent. And so they learn. No electric or spiked collars, no beatings, no staccato militaristic style commands.

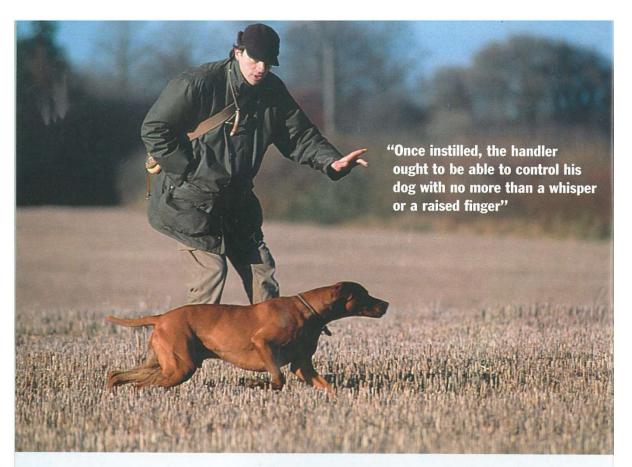
That body language is fascinating and once you learn to look for it. dogs talk to you all the time. Better still, they tell you what they are going to do next and you can anticipate and be ready to encourage or divert. The time to inhibit or encourage is that brief time between a dog thinking about doing something and then, initially, those tentative first few moves to start the behaviour pattern. After all, that is what a point is - prolonged by selective breeding and training. The pause before the pounce. Once a habit is formed it can be very

difficult to eradicate and a habit can form very rapidly indeed. The nearer to natural instinctive behaviour, the more rapidly the habits develop, become engrained, and the more difficult they are to eradicate.

Let's look at Mr Purchaser's problem from another angle. There is nothing wrong in the approach of our innocent purchaser except that he fails to recognise the dog as a living thinking animal with many similarities to ourselves. He thinks of the dog as that TV set. If it doesn't work as it is 'meant to', shouldn't he have a right to take it back and demand his money back?

The dog is in fact a social animal that willingly integrates with human society but that's where the similarities end. In fact, Paylov referred to the dog as 'the small man' in this context. The dog evolved very successfully over several millions of years without any help from Man. That man-dog partnership is only a few thousand years old. So forget any thoughts of the dog having human morals or recognising a sense of duty to perform what Mr Purchaser thinks it is 'meant to do'. A dog will eat excrement - sheep, cattle, rabbits, dog, human - with obvious relish because it is a dog and that's what dogs do. So don't waste time trying to alter the animal's natural behaviour; just look the other way and remember not to let it lick your face. There is no profit in trying to make water run up hill.

Taking the training of Dog in Mr Purchaser's kennel, the first thing we can say with certainty is that unless something unforeseen happens, that puppy will grow to be an adult. While it might be easy to run down a six week old puppy, it is going to be a different story at six months. Most young dogs can outrun the trainer, not least because they have twice as many legs, so there is little point in attempting the contest and convincing him of the truth. But it might be a good idea to instill some control while the animal is young and there is still some doubt who is the smarter and faster. Neglect early



training at your peril. The best tool here is the check cord and there are books and videos to tell you how best to use one.

The two pillars on which all else in dog work depends is (a) the Sit, Drop, Down, or whatever you use to bring your dog to a FULL STOP!, i.e. total control, and (b) 'Come Here' which means what it says. The time to start training the first command is when the pup would naturally enter the society of the canine pack. This is when it would have to adjust to the social pressures at, say, a kill. It must learn to accept the authority of the more dominant members of the pack, yet exert itself with less mature pups. It must learn to use the body language for 'you are superior and I submit' or risk getting killed. In return, it will expect the acknowledgement and reassurance that the more dominant dog will give in return for this gesture. These

social graces are learnt quickly and with little or no force - just as all successful training should be. Once instilled, the handler ought to be able to control his dog with no more than a whisper or a raised finger. A dog which cannot be stopped with one whistled signal under normal circumstances at 100 metres or more is not trained.

The 'Come Here' in canine terms is initially an invitation to social grooming. Social grooming is an essential part of a stable social structure. It is reassurance. It might be a brief game. A touch. A word. Remember? Dogs are social animals like humans. Dogs sniff each other's bottoms and do a lot of other things we think strange and ridiculous but are essential to maintain a stable social order. Humans do the same thing in different ways - by having dinner parties, going to falconry field meets, having committee meetings,

indulging in far more sex than is needed for procreation, going to church, and sending Christmas cards. The one thing we have in common is 'social contact' - those small contacts (perhaps physical the hand shake; or body language the smile; or oral - scent/after shave or bottom sniffing which ever is your predilection; or a symbolic representation of such) that both parties find so reassuring. We understand the language and distrust those who do not follow the formula. 'I don't like Mr X. I don't know why, there's something about him'. Mr X has not learnt those signals that every salesman knows to put his mark at ease! The 'Come Here', once again, is quickly and easily reinforced with the use of nothing more expensive than a check cord.

Then the signals that cross the boundaries of species. The dog's wet

nose on a hand; the owner's scratching of a dog's ear. The signals are too much engrained in tradition to need much explanation - but an awful lot of dog owners miss out on these simple essentials. The experienced shepherd rarely pets his dog; such caressing and kind words are rationed and so even more valued by the dog as a reward for good behaviour. As might be expected, such things have been minutely studied in the laboratory. The most powerful inducement to a dog's learning has been found to be physical petting. Next is verbal praise and 'so talk'. Way down on the list come food rewards. Bottom of all are punishments and the use of electric shocking devices. Think about it. The most effective are those which are natural. So the order of the list is logical. Force methods were found to work in the short term but often threw up some unpredictable problem in training, sometimes years later. Many trainers create problems for themselves by destroying that vital bond between man and dog members of the same pack.

If Mr Purchaser had spent five minutes a day teaching his dog firm friendly control, preferably introduced through play and games, he would have the basis for communication. It is on such small details that communication is built. Why was it so foolish for Mr Purchaser to stand shouting when his dog chased a hare? Simply because dogs don't talk to each other this way. And, oh yes, dogs do talk. They just don't use words. It is mostly body language, subtle changes of gait, scent and eye contact. Just think what information can be transmitted between human partners by a glance, a flicker of an eye or a slightly raised eyebrow. How much more so in a species that does not use words. Why insist that the dog should adapt to our ways when it is so much simpler for the trainer to understand the dog? Use natural instincts to progress training and you are in for a surprise.

If, when Dog first tentatively took a few paces after that hare before glancing back to get reassurance from his owner, Mr Purchaser had called 'Come Here' and smartly turned on his heel and walked (or, better, run) off in the opposite direction, Dog might, just might, have decided not to chase and followed the boss. And if Mr P had gone and hidden and waited in hiding until his dog had returned and then made a fuss of him, blowing the recall whistle as he did so, that would all have made perfect sense to the dog. The clear message would be that hares are not the preferred prey. After all, the boss did not join in the hunt but apparently went after some other more profitable prey in the opposite direction. Next time, maybe it would pay to stick around.

'The most powerful inducement to a dog's learning has been found to be physical petting'

It might be a little more of a problem for Mr P to get his dog interested in grouse. But even though Mr P lives in the suburbs where there is no game, all is not lost. Mr P will soon find that if he takes the trouble to get to know his dog, two way communications can easily become established. Dog will recognise the simple signals Mr P is attempting to transmit. Excitement. Caution. Stop. Look. Play. Threat. Mock attack. Hunt. Follow directions. All this will be seen in a game between a couple of pups. A game with a ball can help instill control by teaching the dog to stop when commanded, to be ready for a chase, to stalk, stand off, etc. Retrieving can be taught by gently taking some favourite bone or toy from the dog, with a scratch behind the dog's ear, and then gently giving it back to the dog. Continually throwing things for a dog to fetch eventually convince the dog the owner really does want to get rid of

that item! Think things out from the dog's point of view. A momentary pause in a game can be encouraged and associated with some special signal from the trainer so the dog understands that signal means a pause before another chase after a ball. Think how a small child learns and expect no more from a dog which has less intelligence. You don't need a grouse moor to train a dog.

With a partially educated dog, Mr P can now travel north to the grouse moor with some confidence. Dog knows his owner's body language and what the messages mean. Dog picks up on these clues and adopts a similar attitude. Someone has an experienced pointer. A covey is found. Mr P brings Dog up beside the experienced worker to savour the intoxicating scent of grouse for the first time. A few experiences like this and Dog begins to stiffen as he sees Mr P and the strange dog also adopts a pointing attitude. You can't point? Of course you can! Just imagine you see the grouse in the heather and are

preparing to leap onto them. Talk point! (Pointers and setters can easily be taught to point on command. But it is a party trick. The pointing instinct is merely triggered by your verbal stimulation rather than the scent of game. Backing is the same response to the sight of another pointing dog). You are stiff, poised, ready to spring. This is something your dog can relate to. You whisper urgent commands -Watch Out! Take Care! A few more encounters, at first on the lead, and things begin to make sense to the dog and he can be allowed to run and make his own mistakes. Dog is encouraged to run, just as he learnt to do in the games back home. He can drag a cord and when he does point, Mr P can get up close and mutter those encouraging words in his ear. Dog may be allowed to tousle a freshly killed grouse. Perhaps to eat the head. Why bother with sheep or hares? Or as Mr Arkwright put it, why bother with beer when you can get champagne?

Bumblefoot remains one of the commonest and most serious diseases of captive birds of prey.

Bumblefoot is an infected lesion affecting the ball of the foot, or one or more of the toes. Bumblefoot is a common disease of large species of raptors (especially longwings) maintained in captivity and tends to become chronic, progressive, invasive and eventually disabling. It is often either unresponsive or recurrent when treated with traditional methods. If the condition does occur in hawks or broadwings, it is usually responsive to simple therapy, whilst in longwings recovery rates are typically much worse. The condition is common in captive birds (wild caught or captive reared) but rare in wild birds.

The Cause

Raptor's feet are protected by a thick layer of dry hard skin. On the bottom surface is a covering of hard projections (tarsal pads), which help to spread the weight bearing function of the foot.

Bumblefoot arises for one of two reasons. Firstly following any penetration of the foot, caused by a talon, thorn, sharp foreign body, rusty chain link fencing or any other sharp or abrasive object which may simultaneously introduce infection either into the skin or deeper structures of the foot. Secondly, (and far more commonly), captive birds, whether kept tethered on blocks or free in aviaries, may suffer from a pressure sore on the bottoms of their feet. This occurs because either they have been forced to use unsuitable perches, or simply because of periods of inactivity, during which time they are taking excessive weight on their feet. If weight is consistently taken by certain parts of the foot, the blood supply to these areas is compromised, leading to a reduction in the local skin defense system. such that bacteria which are living naturally on the skin, may penetrate

Bumblefoot in Raptors an Overview and Update

by Neil Forbes

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beneficial effects of the bodies defense mechanism (or antibiotics administered by a vet), which would normally be carried there by the blood supply. This mechanism explains the frequent failure to self heal, or respond following surgery and the reoccurrence rate of many cases.

Clinical Signs

If bumblefoot is to be successfully treated it is imperative that the condition is recognised at an early stage. Cases may be classified according to their stage of development.

Stage I (see figure I) is characterised by superficial changes only and carries a favourable prognosis, as there is no evidence of infection. The changes generally respond to conservative, husbandry changes, including changing perching surfaces and application

Figure I

these defences and enter the foot. Once the tissues are affected, they tend to swell, making this area of the foot even more prominent, and hence more likely to bear weight when the bird is standing, hence the blood supply to that area is further compromised. As bacteria enter the tissue of the foot, any attempt by the foot to effect a cure, is minimised by the lack of blood. In time bacteria pass deeper into the tissues of the foot causing infection of and damage to deeper structures resulting in severe and crippling bumblefoot.

Within 3-5 days of initial trauma, it has been shown that a scar tissue barrier builds up around any area of infection or inflammation, thereby protecting the bacteria from the

Figure II

of topical emollients eg.
Preparation H (Whitehall Labs).
Each further stage is characterised by more severe changes in the foot, in particular to the deeper structures.
Stage II shows localised infection, which does not affect the deeper structures, whilst Stage III has more generalised infection, affecting deeper structures. Fig II shows a typical Stage III case, which

inevitably will require surgery, following bacterial sensitivity testing and antibiotics. If surgery has to be performed this should be done at an early stage, whilst the infective material can still be excised cleanly and before the infection has entered the tendons or bones.

In Stage IV, the deeper structures of the foot are affected, and the outlook has traditionally been serious, whilst in Stage V the bone is infected and previously such cases have been considered to be hopeless, with euthanasia being advised.

At the recent 3rd International Raptor Biomedicine Conference held in South Africa, David Remple from Dubai and Neil Forbes from England, presented their findings following a research project using a new technique in the treatment of persistent infections, which have so often previously been the problem with bumblefoot therapy. Remple and Forbes (1998) described the use of antibiotic impregnated bone cement beads in the treatment of bumblefoot. By this method increased local concentrations of antibiotic can be achieved than with injections or tablets administration without relying on blood supply, which is often impaired in such cases. Furthermore drugs which could not normally be used by injection or tablet, (in view of their potential toxic effects) may be safely administered in this local

Clinical Management

The first step in bumblefoot management is the education of the keeper. The routine of daily handling, and monitoring of foot health is invaluable. If cases can be detected at Stage I, then virtually all will immediately respond to conservative therapy (ie. finding the cause of the problem, eg. unsuitable perches, and rectifying this). On presentation of more serious cases a full history is taken and the bird should receive a full clinical

examination. Any other disease, causing foot problems (eg. pox, frost bite, spinal or pelvic limb injuries etc.) or general illness (eg. nutritional deficiencies, aspergillosis, tuberculosis etc.) should be considered. If the cause is husbandry related, then the lesion is likely to be similar or identical in severity and location on both feet. Husbandry problems vary from simply standing for excessive periods on inadequate perches (often smooth and hard), unsuitable furniture (with the brass eyelets of Aylmeri or bells repeatedly knocking against and bruising the ankles or feet), to repeated trauma of hitting or grasping fencing or other materials that have been used in the construction of the aviary. Alternatively some birds when either flown to the lure or flown free at quarry, have an unfortunate habit of hitting quarry (binding to) or lure with excessive force with their feet, leading to repeated bruising and foot damage. If this occurs when flown at the lure, an improved lure design, a lighter weight lure, or more careful use of a lure can help. If the cause is a consequence of a penetration, this may be as a result of the way the bird is caught in the aviary, possibly it has overlong talons or due to foreign body (thorn) puncture, or bite wounds from quarry (squirrels, rats

Bumblefoot never only affects one foot. As soon as one foot is affected additional weight is born by the good foot, the latter rapidly suffers with a 'pressure necrosis bumblefoot'. If only one foot appears affected, action should be taken to dissipate weight over the whole surface of the good foot, including the toes, rather than simply the ball of the foot, in order to prevent disease of the second foot. The same applies to any bird with any leg injury (eg. following any leg or pelvic injury), the other (healthy) leg will be bearing more weight than usual and should be suitably padded, if this is not done (in falcons in particular), a bumblefoot will rapidly develop. It is for this reason that amputation of the

leg of a raptor should never be considered, as the remaining good leg will inevitably develop bumblefoot, sooner or later.

In all cases the first step is to take a swab to test the bacteria to see what antibiotic is likely to be effective. In mild cases, foot dressing and antibiotics alone may be effective, however in more serious cases, (and in those which do not respond to medication), surgery will be indicated. If at all possible the whole lesion should be removed in one piece converting a necrotic infected area of tissue into a clean, surgical site with a good blood supply that may be sutured closed so that it heals well. Whilst in the past lesions may have been opened and the infected material scraped out, the author now favours a technique where the whole infected area is cut out in one clean section. Patients are routinely anaesthetised using Isoflorane, the foot is disinfected and the infected material surgically removed. Prior to closure of the wound, three cavities are created between and about the toes, into each of these cavities an antibiotic impregnated bone cement bead is placed. These beads will continue to release antibiotics into the local area surrounding the previously infected tissue for a period of months. The beads are usually left in the foot, although they may be removed from the top of the foot, if that should prove necessary at a later date.

Following surgery it is imperative that pressure is effectively relieved from the operation site (ie the ball of the foot). In a normal stance the total bird's weight is applied to this particular area. In recent years a number of different systems have been developed to achieve this. Differing structures are required for different species, for small species corn plasters are used, for larger species a similar shaped dressing made of rigid foam, or a fabricated circular padded structure. These dressings make contact with the bottom of each toe at its base where each toe meets the ball of the foot.



Female Gyr with padded bumblefoot dressings.

The end result is that the ball of the foot does not 'weight bear' at all, and air is free to pass around the healing wound. Dressings are made from rigid foam, plastic, wood or a circle of wire, amply padded with foam and cotton wool. Antibiotics are maintained by mouth or injection for 14 - 21 days. These padded dressings look cumbersome, but in fact birds appear very comfortable in them, although their food does need to be cut up, as the bird is unable to pull on its food whilst wearing these dressings.

Conclusion

Bumblefoot has been a serious affliction of falconers birds for thousands of years. A detailed description was made by Holy Roman Emperor Frederik II of Hohenstaufen (1194-1250) in his monumental treatise, De Arte Venandi Cum Avibus. The earliest reference to surgical treatment of the disease appears in Falconry, or the Falcons Lure and Cure published in 1615 (Cooper 1980). However

despite its long recognition, the condition remains an all too common affliction of captive raptors. Full surgical debridement, is still considered to be essential for successful treatment even when employing the use of bone cement beads. The correct and full relief of pressure from the ball of the foot following surgery is essential. Each part of this treatment regime is essential, however in combination it has been shown to achieve a very high level of long term cure, which is significantly improved on previously reported recovery rates.

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The Northumberland Crow Falcons

A video from Nick Fox

The title of Nick Fox's video, The Northumberland Crow Falcons, suggested the 'haut vol', or classic ringing flight, a special branch of falconry rarely practiced anymore. So with great enthusiasm I agreed to review the tape.

Strangely, The Northumberland Crow Falcons begins with a commercial for Fox's next digital effort, Understanding the Bird of Prey, which will be based on his book of the same name. Once this minor irritation has passed, the gentle voice of Helen Macdonald leads us through the local history of the Northumberland landscape, starting with Hadrian's Wall and working up to the present uses of the land (it is now a World Heritage Site). The photography is visually lyrical and I enjoyed the way in which the history of British falconry was seamlessly interwoven with shots of ancient abbeys and art. This is all good stuff.

Then we find ourselves witnessing the wonders of captive breeding at a falcon centre in Wales. An egg hatches, a chick is fed, and we are introduced to a stunning white gyr/saker named 'Quicksilver'. Segue to a courtyard filled with beefy falcons blocked in rows. We are told the facility 'provides 100 falcons a year destined to go to falconers throughout the world'. The camera pans a United Arab Emirates jetliner. The Arab connection! Every captive breeders dream! I finding myself wondering if 'Quicksilver' is double entendre for 'Fastgold'?

Sixteen minutes into the film, Nick Fox is ready to take us for a 'typical' day of crow hawking. We start at dawn, calling the horses in from the pasture. We are shown

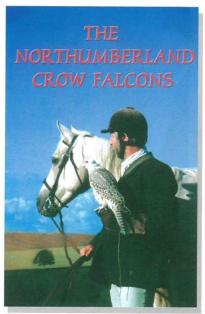
beautiful horses, superb falcons, the best in support vehicles, equipment and logistics. Fox tells us the Northumberland Crow Falcons is actually the name of a small club, but the only falconer we see slipping falcons is Fox himself.

The meat of the video consists of 45 minutes of actual crow hawking which all falconers will enjoy. Many of the flights are filmed at the limits of the cameras telephoto lens. Direct, relentless pursuit is the tactic most commonly employed by the Peregrine/Sakers and their enthusiasm and endurance are remarkable for so early in the season. I loved their names: 'Venture', 'Banshee', and 'Fury'. I would have liked to have learned more about the natural history and behavior of the crow, and the qualities that make it a worthy quarry.

A disappointment is that only one true ringing flight occurs; made by the smallest hawk of the lot, a 16 ounce Peregrine/New Zealand falcon tiercel called 'Spitfire'. This little hybrids performance is so stellar throughout the video that a much deserved encore 'for Spitfire fans' is appended at the end. As I watched the video a second and third time, I couldn't help but wonder if 'Spitfire' wasn't slightly slower than the larger hybrids (although he looked very fast). Perhaps his smaller size or slower speed failed to intimidate the crows, thus making them more inclined to ring? Would the crows have been more physically challenging to the larger falcons in the spring? My recollection of rook hawking in the literature is that it was historically practiced in that season.



Reviewed by Charles H. Schwartz, Pingree, Idaho, USA



Despite a wandering and sometimes ambiguous story line, this video is unique and enjoyable in that it documents modern crow hawking from horseback. The photography is often excellent and Fox's soft spoken narration negates any interpretation of pretentiousness. I recommend it.

The Northumberland Crow Falcons. 65 minutes. A Faraway Film Production. Available from Dr N Fox, PO Box 19, Carmarthen, Wales SW33 5YL £20 inclusive p&p and in the United States from Northwoods Ltd. \$30 USD plus shipping.



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