

INTERNATIONAL FALCONER

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ISSUE 6

Weight management

First flight at Snow Geese

Tactics

Practical raptor nutrition

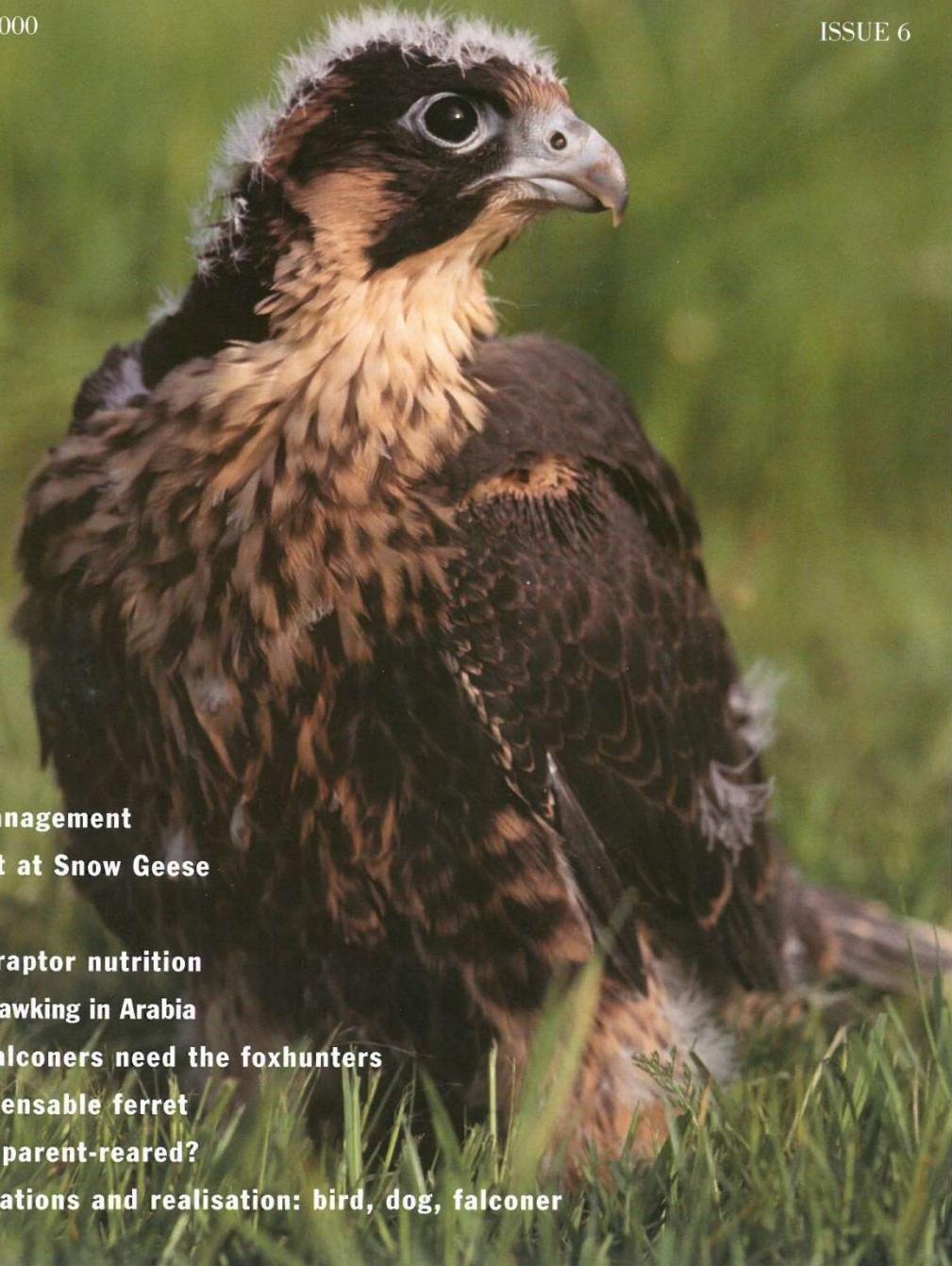
Partridge hawking in Arabia

Why the falconers need the foxhunters

The indispensable ferret

Inprint or parent-reared?

Communications and realisation: bird, dog, falconer



INTERNATIONAL FALCONER

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Cover photo by Seth Anthony.
Eyass imprint female Scottish peregrine.

EDITORIAL

That time of year is almost upon us again here in the UK and also for many of you in other parts of the world - young eyasses are in their early schooling, inter-mewed hawks are being urged to complete those last feathers and we all as always hope to make this the best season ever.

Amongst all the excitement and anticipation, this is also a time to reflect on just how fortunate we are to be able to pursue the sport that we love. Indeed some countries are not so fortunate, and the liberty of hunting with a hawk that we take for granted, is denied through some senseless 'anti' legislation. As falconers we are always living a fine-line and such legislation could so easily be forced upon us all and have a devastating impact. It's very easy to sit back and just hope that it will never happen, but believe it, these threats are real. British falconers are now facing their biggest threat yet - read Nicholas Kester's article on page 42 and please take it in. Now is not a time for complacency - it is time for action.

Enjoy this packed issue of *International Falconer* and have a great start to the season.

Seth

IMPORTANT - NOTE FROM THE EDITOR

The Editor wishes to point out that *International Falconer* features articles from across the world which inevitably include a variety of management, training and hunting methods. Some practices in one country/state may not be legal in another. It is the responsibility of the falconer to know and strictly adhere to the laws and regulations relevant to the area(s) he/she lives and hawks in. For the good of the sport NEVER do anything that you are not entirely sure is legal.

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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CONTENTS

4 British Falconry Fair

6 Tactics

Stuart Rossell highlights how a change of strategy from either hawk or falconer can turn an unpromising day's hawking into a successful one.

10 Partridge hawking in Arabia

For *Mike Ratcliffe* taking the rock partridge of Arabia with a waiting-on flight is a two-year long ambition.

14 The indispensable ferret

Smelly and bite-happy or an essential element to spectacular rabbit hawking? *Martin Hollinshead* explains why he would never be without *Mustela putorius furo*.

**20 Communications and realisation:
bird, dog, falconer**

Derry Argue discusses the key foundation to dog training.

24 First flight at snow geese

David T. Moran pursues a long-awaited ambition in the goose-laden fields of South Dakota.

32 Imprint or parent-reared?

The human-imprinted and naturally-imprinted falcon are two very different beasts. *Tony Crosswell* explains why to him only one seems complete.

34 Weight management

Joy Roy III on the key element to raptor training. An excerpt from his forthcoming book.

42 Why the falconers need the foxhunters

Nicholas Kester on why we should give foxhunting our utmost support.

44 Practical raptor nutrition

Neil Forbes discusses and gives advice on feeding the captive raptor.

50 Video review

Captive Propagation of the Northern Goshawk.
Reviewed by *Peter Gill*.

INTERNATIONAL FALCONER



Photo: Seth Anthony

THE BRITISH FALCONERS' FAIR

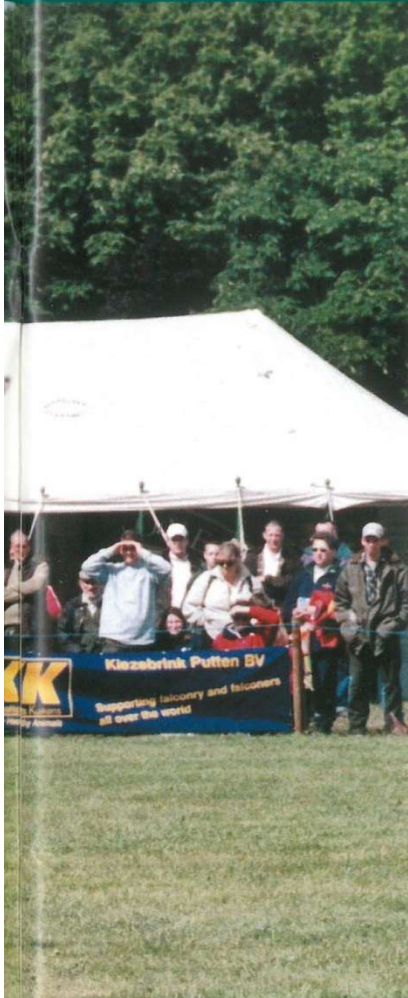


Hal Webster admiring the drawing and paintings of David Digby.



An international gathering. *Left to right:* IF's Val Anthony welcoming the Flaesh family from France, George Kotsiopolus from America and Raf Verjans from Belgium.

28/29 May 2000



The Campaign for Falconry marked the millennium with their most successful fair to date. Over £2,000 was raised, every penny of which will go straight back into falconry.

The highlight of the fair for the CFF was notably the presentation of engraved glass tankards to Roger Upton, Steven Frank and Geoffrey Pollard which were given in recognition of their dedication to the sport and their continued support to those joining falconry. All three have flown hawks for longer than they would care me to mention their knowledge is invaluable and happily they don't take much encouragement to share their experiences. Falconry is now a growing sport but our thanks must go to these fine falconers for keeping it alive during the "leaner" years.

The other important moment was the donation of two readers and a set of microchips by Bayer Electronics. Bayer very kindly agreed to assist the CFF in helping Croatia with their conservation work. This technology so generously given will enable the Croatians to monitor and preserve Peregrin Falcon population together with vultures and wolves. The presentation was made by Jemima Parry-Jones MBE of the National



Alamka Mendusic from Croatia and Jemima Parry-Jones MBE.

Birds of Prey Centre, herself one the most important contributors to the conservation of raptors worldwide. Jemima made a wonderful presentation and the acceptance speech by Alamka Mendusic on behalf of the Croatians was both interesting and moving - and you think we have problems! Our thanks must go to Bobby Flight of Bayer Electronics for making all this possible and for taking the time to attend the fair.

This year the CFF had an extra marquee kindly sponsored by Honeybrook Farms where we held several informative and interesting workshops and in the evening Honeybrook provided a hog roast and together with KKK who provided the refreshments, a good time was had by all - or so they told each other the next day.

The reception in the pavilion was attended by falconers from around the world. It was a great pleasure to meet so many like minded people and it is good to note that the appreciation of good falconry is the same in any language.

All in all a good day and now on to the next of the seasons fairs. Never has it been more important to raise funds. For most of us the countryside and its ways is our first love - let us not lose it to urban ideas and management.



Left to right: Geoffrey Pollard, Marie-Louise Leschallas, Roger Upton, Stephen Frank.

TACT

Harris' and Jackrabbit



At a recent California Hawking Club field meet, a couple of enterprising falconers brought their three Harris' hawks all the way out from New York. One of the falconers had never seen a jack rabbit before and it says a lot to their ability that they took quarry everyday they were there including a number of jacks. I had a chance to go out with them the second day of their visit. They had caught a jack the day before with the hawks so they knew what they were. The weather was not with us and this particular field is hunted fairly heavily. Consequently the odds were heavily in the jackrabbits' favour. The jacks were flushing far in the distance and as

soon as the hawks got close they would do their usual sharp turn or stop-dead manoeuvre and head off into the wind leaving the hawks behind on the ground or struggling to get airborne again. Such flights will quickly disappoint hawks to the extent that they will start to doubt their ability to catch the quarry and will start refusing all but the easiest of slips. It was time to try something different. We managed to kill one on a fairly close slip but it was more luck than judgment.

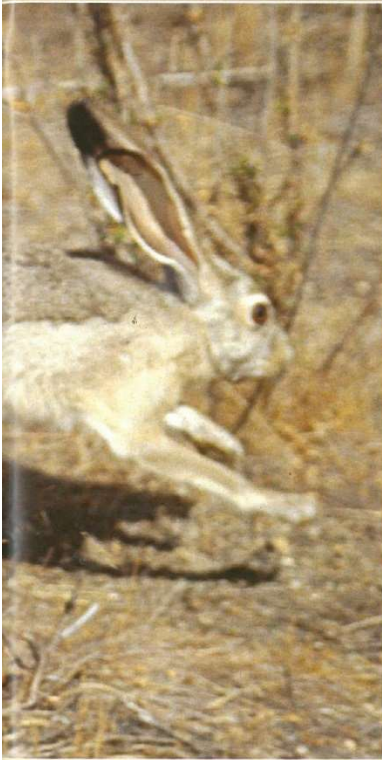
After a brief discussion I suggested two of us try to herd the jacks towards the falconers waiting with their hawks. Mike and I set off around the field to get the other side

of a couple of jacks we had seen. The field is bordered on two sides by roads which I suspected the jacks wouldn't cross. The falconers waited patiently against some trees on the other side. By doing this, waiting against the trees and standing still, we were almost certain that they wouldn't be seen by the quarry. Jacks, like many mammals, are not good at spotting non moving objects particularly when they are not silhouetted against a skyline. It had now started to drizzle. Mike and I gently put up the jacks which headed across the field towards the waiting falconers and hawks. The Harris' saw them coming from a long way off and, seeing them run towards them,

ICS

by Stuart Rossell

Photo: Joe Roy III



those hawks with a lot of persistence got anywhere close to them. The first two days we had about a dozen frustrating flights with only a small tantalising piece of grey fur to show for it. On the third attempt, fog kept us off the top of the hill and so we headed for the small valleys on the lower edge of the moor. Here, the heather was a bit longer than up on top which made the hares sit much tighter allowing a closer approach. It also made them just a bit slower. A further advantage, as we had plenty of beaters with us, was being able to position the hawks at the tops of the gulleys while the beaters walked below them. This gave the hawks an added height advantage particularly over those hares that were hiding in the bottom. Keeping in a line that would have made a drill sergeant proud we walked from where the

By changing our normal technique of simply walking across a field putting up quarry, we had turned an unpromising day into a successful one.

instinctively waited for them to get closer. At the time they judged they were in position the two Harris's took off after the nearest jack, the small male if I remember correctly hit it first, got knocked off, jumped straight up and assisted the female who was now being taken for a ride. Together they subdued the jack.

By changing our normal technique of simply walking across a field putting up quarry, we had turned an unpromising day into a successful one. I had a similar experience the first time I tried to catch blue hares in Scotland. When walked up across relatively flat land the advantage was all with the hares. They would flush at considerable distances and only

small valleys started, down hill, the valleys getting progressively wider as we walked though never more than a hundred yards or so across from rim to rim. As the valleys turned, so those on the inside of the turn would stop and wait for those on the outside to catch up like a well trained drill team turning a corner. This guaranteed that any hares flushed would be in front of the hawks. Four flights and two blue hares later we had figured out how to even the balance. Any hares flushed were immediately pursued by the hawks

which, coming down with the added height advantage, were quickly able to close the gap. Just as rook and game hawking requires the falconer to find his quarry in a suitable place for his hawk to have the best chance of success, so the same applies for those flying short and broadwings. The fact that you can flush a rabbit, hare or pheasant does not guarantee success for your hawk.

Just as experienced falconers help their hawks catch quarry by finding it in suitable places and flushing it to the best advantage of the hawk, so some hawks learn how to deal with certain quarries. One particular male Harris' comes to mind, who early on in my falconry career really showed me what this species is capable of. 'Scruff' learnt at least three separate tactics for individual species with which he was familiar. It was fascinating for me to watch as, through failure, he learnt what it was he needed to do to get to grips with the different mammals and birds he encountered. In his first season before a bite stopped him, thankfully, from chasing them, he learnt that grey squirrels inhabited bunches of sticks in trees. I well remember the first time I saw him go onto a crow's nest and jump up and down on it. I didn't know what he was doing at the time until a few minutes later he tried the same thing on a drey. He landed on top and deliberately took hold of some of the sticks in his feet and began jumping up and down with them. Out flushed a squirrel and the chase was on. As I said, he stopped chasing them after being bitten by the first one he caught about two months later, but during that time he would systematically find every drey he could and perform the same procedure.

TACTICS

With wood pigeons feeding out on open fields he would use a technique that I have since seen other Harris' hawks use on ducks. If approached directly by a hawk both pigeons and ducks will flush a long way ahead. The hawks learnt through experience to fly towards the quarry but at an angle that made it look like they would pass to one side. The style of flying was also fairly relaxed as though the hawk were merely flying from one place to another and not hunting at all. The pigeons and ducks watch them carefully and have to make up their mind if the hawk is simply passing over or even if it has in fact seen them. These approaches are made fairly high up with the hawk often being over 100 feet up. As they get within range so they put in a sudden stoop, at which the quarry immediately flushes. Ducks are in serious trouble if they have allowed the hawk to get this close although pigeons are often able to avoid this 'stoop'. I have seen a number of individual Harris' hawks learn this technique and it is one of the few ways in which, except the odd lucky slip, this species can come close enough to these wary quarries to put them in the bag.

Scruff also learnt a technique for coots swimming about on water which I have yet to see another hawk repeat. He had tried in his youthful enthusiasm the direct approach. Young hawks are sometimes amusingly naive as they crash into the water after coots, moorhens and ducks. Most learn very quickly that they cannot catch them in such a manner. With coots, Scruff would fly to a tree at the opposite side of a pond or lake on which the coots were swimming. I never figured out why, but amazingly the coots, as long as he was not too near, would slowly swim away from him and climb out onto the bank and walk towards the next body of water. He would wait until he judged what was the correct

Hawks may not be counted 'made' in some instances until their second season, so don't quit early. Some of my best Harris' hawks have been hawks which other falconers had given up on!

moment and then launch a direct attack, keeping his height as he did when approaching the pigeons but covering the ground as fast as possible. Once they saw him in flight the coots would half run, half fly in their rush to get to water and safety. I never saw them turn back. Whether they made it or not depended on the judgment of both predator and prey but Scruff caught enough to make the flight worthwhile. It was an amazing experience to walk towards a small lake with coots on it that with former hawks (and those since him) would have been deemed safe and put him up into a tree in the sure knowledge that within a few minutes he would have them heading out onto the far bank for a flight. I would just sit down and watch the show unfold but I never figured out how he made them do it.

Harris' hawks such as Scruff only learn these techniques by being free flown, as opposed to flown off the fist, at a wide variety of quarry, in different weather conditions and over different terrain. A hawk thus flown is constantly learning new things and will improve and develop during its first two seasons. I will admit to getting a bit annoyed at those who don't give their hawks a chance to develop in this way but dismiss them after only a few weeks in the field. I think part of it is that we consider a hawk 'trained' when it will come back and has started to chase quarry. That may be the case, but perhaps we should put more emphasis on when a hawk is 'made' ie. it knows

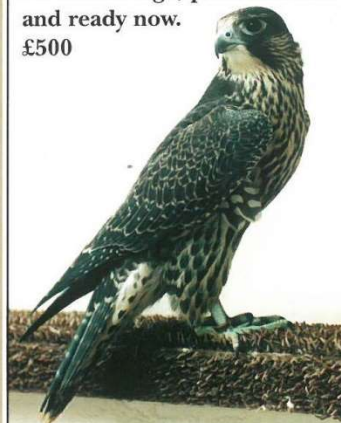
what it is about, knows its quarry and can be relied upon to give a good account of itself at the species of quarry being flown in the field. Hawks may not be counted 'made' in some instances until their second season so don't quit early. Some of my best Harris' hawks have been hawks which other falconers had given up on!

I well remember one day's hawking in Scotland when a guest had come out to see a hawk fly. He mentioned in the drive up to the mews that he didn't really care if the hawks caught anything or not as he was rather against killing things. He just wanted to experience "the beauty of the hawks in flight". Shifting uncomfortably in my seat I wondered why, if he didn't want to see things killed, did he want to go out with a trained hawk! Anyway, to appease my guest I deliberately chose an area where I knew quarry would be few and far between. I only flew one hawk (he didn't even want to hold it) a third year female Harris' hawk named Whispa. She wasn't my favourite as she was a bit clumsy compared to some of the others, although she was deadly on rabbits and had taken other quarry as well. Shortly after leaving the mews she set off on the sort of casual flight, that I knew only too well, meant she had seen a duck. At that point I couldn't see them and neither could my guest. He raised his eyebrows more than a little when I announced "she's flying a duck". Sure enough a few seconds later she took a downward turn and two mallards took the cue and flushed from a small stream in the middle of a field. She took the drake about 15 feet off the ground. I was impressed. My guest looked the other way as I dispatched the duck and gave the hawk a reward. Next we headed through the trees and out onto the moor. We'd only gone about 200 yards when a brown hare broke about 100 yards

away. Rabbits and hares were Whispa's favourite quarry and she set off in determined pursuit and caught the hare fair and square in about another 50 yards. Two flights, two kills. Two separate species both requiring different techniques on the part of the hawk. Not bad. My guest wanted to go home. Walking back through the wood and into the same field where she had taken the duck 30 or so minutes before, Whispa set off on a fast contour hugging flight that I knew meant she had seen a pheasant feeding out in the open. She covered the 300 yards fairly quickly and popped up over a rise where she believed the pheasant was. Sure enough, he was there. She missed the first grab but pulled the pheasant out of the air before he had time to get airborne. I was ecstatic.

Here was the result of three seasons hard work. A hawk that would fly a wide range of quarry using different techniques as and when she needed them, had just taken three difficult quarry species under conditions that would have defeated many less experienced hawks regardless of their species. She'd also done it in only three slips! Hawks only get to be this good by constant flying at quarry in the field and by letting them learn and develop their techniques. The only downside was that half the field present had no idea of the skill Whispa had shown that day, but I didn't care. I went home to celebrate without him! ■

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NO ONE GOES TO THE LENGTHS WE DO

Feisal and I have been friends since we met in the Riyadh falcon souk in 1983. It was he who had encouraged me to get back to falconry as my children, Jim and Sal reached school age. He has one of those faces that invite friendship and confidence. He characterises all that I have come to love and respect in Saudi. Over the years we have enjoyed many hawking trips together. We both prefer the informality of hawking among a small group of friends, to the inevitable formality of hawking in large groups with one patron. Many thoroughly pleasant evenings of training and chat have been spent in his majlis with brothers, cousins and friends. I think it was on one of these evenings that I first met his brother, Fahad.

As Feisal is modest and reserved in discussion, Fahad is boisterous and opinionated. Just as you can rely on Feisal to leap to your defence at all times you can rely on Fahad to take every opportunity to put you in an embarrassing position whenever possible. No matter how much fun he had at my expense, it was impossible to dislike him. He is 'the loveable rogue'. Our relationship has survived a number of disasters. On one occasion he set me up to tell a lengthy hunting tale in Arabic to a majlis full of strangers of whom the host was a renowned Saudi poet. The story was a good one but my Arabic was sheer torment to the assembled literati. My embarrassment was all he had hoped for. It had also survived another occasion in Feisal's majlis when someone arrived that I didn't know. We all moved around on the carpets and the stranger sat next to me. We'd all caught a glimpse of a rather expensive sports car as he parked outside the gate and the quality of the thobe and qhutra bespoke wealth. As the talk resumed, Fahad noticed him take a large leather holder of cigars out of his pocket. Attention focused on him as he went through the ritual of preparing a large cuban for lighting. It is unusual for Saudis to smoke cigars. The guest failed to offer the cigars around, probably thinking that no-one smoked them. My heart sank as I noticed the terrible gleam in Fahad's eye.

"*Ya Khalid*", he said "*Mike smokes cigars*"

I did smoke cigars but restricted myself to those you find in packets of five at the newsagents, as Fahad well knew.

"*Fadhil, Fadhil*", Khalid said as he rather shamefacedly offered me one of his two remaining foot long cubans.

"*No, thanks*", I replied having some idea of the cost of them and doubting my ability to finish one without turning green.

As Khalid gratefully moved the cigar case back towards his pocket, Fahad intervened again.

"*Go on Mike, I know how much you enjoy cigars.*"

By now the assembled had realised that this was going to be another Fahad special and we were the focus of attention.

Khalid, now doubly shamed that he had not done the insisting, retrieved the case, extracted a cigar and insisted, in turn, that I take it.

"*Shukran*", I said, knowing that neither Khalid nor I could escape from the trap.

After fumbling with cutters and matches under the closest scrutiny from all, I finally had the dratted thing lit and was wondering how I could escape having to smoke it all in the continued spotlight when Fahad said,

"*Mike's cigars cost 3 riyals (80cents) each Khalid. How much are those?*"

Fahad's smile assured me the teeth of the trap had now closed.

"*300 riyals (\$80)*", replied Khalid.

The rest of the evening was spent with everybody watching Khalid's \$80 go up in smoke as I went green. Seeing us both suffer made Fahad's night.

Manning and training your falcon in Saudi is a social activity and one where I suffered a fair bit of leg-pulling because I always trained barbaries for dove hawking. Surrounded by large female sakers and *calodus* peregrines my tiercel barbary was always a focus for jocularity. My reasoning was that, whilst I might get a flight at houbara a handful of times a season whilst out with them, I could fly doves in the vicinity of work every afternoon. The right bird for doves was the barbary tiercel.

In Saudi, the idea of hawking anything other than houbara, kurawan and hare simply doesn't occur. When I went hawking with them I left my own bird at home and we concentrated on houbara and occasionally kurawan.

In an area to the north of Riyadh just beyond the Tuwaikh escarpment there is a series of shallow sand floored valleys with rock strewn hills on either side. Hidden amongst the rocks there is a small number of subterranean caves, which hold water in pools right through the summer months. The rock partridge or 'hajil' that live in these valleys depend on this water source during the summer. The local Bedouin tribe have hides which line the walkways used by the partridge to access the pools and shoot sufficient to their needs. These traditional sites are a closely guarded secret and the use of the hides is defended vigorously. One year Fahad and I decided we would create our own water source with a small artificial pond fed from a feeder tank. We'd attract the partridge that way and then use a spring-loaded bow net to trap some. As far as we could tell, the partridge never even gave our pool a second glance preferring their time honoured traditional water sources.

This all got me thinking though, and the ambition to take these rock partridge with a waiting-on flight

Partridge hawking in Arabia

by Mike Ratcliffe

with a barbary tiercel was born. It was something I worked on for over two years, spending many days out there studying the quarry and planning various strategies all of which had so far failed miserably to produce the flight I was looking for. My current tiercel had been entered on hajil netted at the waterholes. The partridge were very wary of vehicles in the valleys presumably because they were often shot at from them. Even at the middle point of the widest valley they were seldom more than 100 metres from the rock-strewn hills where they disappeared irretrievably amongst the rocks. They

were also well accustomed to the wild barbaries nesting in the area so that they were past masters at gaining the safety of the rocks before the falcon was overhead. The only chance offered seemed to be on the very rare occasion when I was able to spot a small covey in the distance with the binoculars. I had noticed that if I made in on them with the car, most of them headed immediately for the rocks, but that on rare occasions one or two would take cover under bushes. After a couple of years of trying with two different tiercels I still hadn't been able to engineer the longed-for magic stoop.

Not a single partridge had seen the inside of my bag.

Feisal called on Wednesday evening to ask me along houbara hawking in an area adjacent to the 'wadis' for the weekend. At 4 the next morning I was on my way to join them with my gear packed and an inform tiercel hooded on his car perch. I met Feisal, Fahad and a young falconer that Feisal was bringing on. Fahad transferred to my car and away we went. We picked up Saud, our favourite local tracker from Hifna, a village close to the hunting area. He had already spotted tracks the previous day in the area that we had targeted. It turned out to be a good days hawking. We had a couple of flights and a houbara in the bag.

That night we dropped Saud off at home and slept in the desert. I was determined that I was going to have a go at the partridge the next day, but encountered the usual resistance. Why do you want to waste your time on hajil when there are houbara about? You've been talking about it for two years and haven't got one yet. It is a waste of time. No-one ever catches hajil with a falcon. I was undeterred. The next morning, as I packed my bedroll, I agreed to meet them at lunchtime at the edge of a small band of dunes that we'd hawked over before. I was looking forward to being on my own to make another assault on the partridge, when Fahad announced that he would join me. This wasn't altogether good news since he was the biggest skeptic. As he packed a few of his things, wrapped in a blanket into my car, I tidied up round the camp.

Three hours later, as the sun grew in strength and the partridge searched for wild grass seed in the flat of the 'wadi' bed, we entered the widest of the valleys and were immediately seen by a large group of partridge about 200 metres in front of us. As usual, they scurried for their rocky hideaways. As I glassed over the last of the stragglers, a

strangled 'Yessss!' escaped my throat. I'd seen three partridge squat down under a low bush. They were at least 200 metres from the rocks. This was that rare opportunity! At 405 gram (16oz), my tiercel was spot on his flying weight. Everything was coming together for our best chance in two years. As an added, undeniable bonus, Fahad, the cynic, could hardly be unimpressed. I passed the glasses to Fahad and pointed out the partridge as I unhooded the tiercel and allowed him to take wing from the car window.

"He can't see the hajil", said Fahad.

"I know, I know. Wait!", I muttered as I marked the bush and watched the tiercel as he drifted down-wind with a little mid-air rouse. The partridge stayed put and within two or three minutes the tiercel was waiting on at his 'dove in

a palm tree pitch' of about 100 metres.

"Do you use this cheap bird to find the expensive telemetry he's got on?", he said, trying to revive an old jibe.

I passed the glasses to him to watch the partridge whilst I slowly moved the car forward. This was a familiar ploy and the tiercel eased forward with me. 180.....160.....100.....50 metres and still the partridge were opting for cover. Pushing my luck to give the tiercel the very best opportunity I inched forward again. 40....20...15. Craning my neck out of the car, I waited for the tiercel to come round. I was aware of Fahad scrabbling around in the back of the car, but with the partridge still under the bush just 15 metres from my car door and the tiercel approaching the optimum position, a two year dream was about to come true. As I reached

for the door handle with the cry of the banshee in my throat, time switched to slow motion with a flash of metal at my window, a deafening roar, a puff of feathers and the death throes of three partridge mingled into one dark sensation.

The pleasure Fahad got from shooting all three partridge with a single cartridge was painful to watch as I remained rooted to the car seat. He came round to the car window with the three bodies. He stripped a leg from one and offered it to me.

"Reward your bird", he said. "They would never have stayed under the bush if he hadn't been right above us". ■

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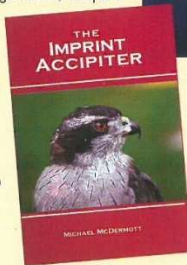
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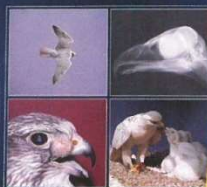
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Birds of Prey

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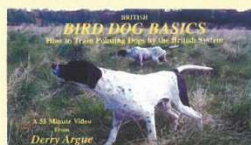


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by Derry Argue

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The Indi FERRET

By Martin Hollinshead

Photo: Polecat ferret by Gary Phillips

ispensable



Ferrets – it seems you either love ‘em or you hate ‘em. There is little room for ‘fence sitting’ and middle ground discussions are always brief. Normally the coin comes down wrong way up for the ferret. So often *Mustela putorius furo* is seen as a smelly, bite-happy critter who’s only contented when firmly attached to something delicate! And then there’s the hawking these little horrors are used for, it’s all dirty knees and overtime for the garden spade! The ferret lover keeps quiet and smiles. With his misunderstood band of helpers, his game book will require additional pages.

The British falconer who tries to avoid using ferrets is fighting against a tradition born of necessity. Rabbits live in holes! From the rabbits' earliest days in the British Isles (sometime after the Norman Conquest), its pursuit went hand in hand with ferreting. No ferrets meant no rabbits, and so it is today. Naturally, the value of the ferret climbs and falls depending on the time of year, the terrain being flown over, and the weather.

Although rabbits are notorious rule breakers and tend to vary in their habits from region to region, generally speaking, for them to be 'hawkable' they will need to have been tempted from their warrens by pleasant weather and kept above ground by cover and the security it provides. Predictably, this leads to the equally general guide that for early season expeditions ferrets are often not essential, and that winter forays would be madness without them.

The falconer who professes a dislike of ferrets has often never had anything to do with them; may never have handled one, may never even have seen one work. Occasionally there will have been some unfortunate experience, with an equally unfortunate, poorly reared and treated animal, but so very often the ferret is judged on lingering misconceptions. The fact is, you can't know ferrets and not admire and like them. The well cared for animal is a joy to handle, interacts with its owner, is tame, playful – is a working pet. As for biting, as one ferreter put it: "Bite? He'd rather try and lick you to death." Vicious ferrets are like hawks that foot and dogs that bite – their behaviour speaks reams of how they have been handled and treated. And the idea that ferrets pong, indeed, 'stink like polecats', is equally false. Apart from breeding season males, who will leave behind a truly enduring reminder of any handling, the ferret's musky odour can't be considered unpleasant.

And the idea that ferreting itself is a troublesome business is just as easily dealt with.

Major problems are normally only had by those who lack field craft and don't recognise ferreting as a demanding and intricate aspect of falconry. The skilled operator serves himself flight after flight with the minimum of bother. And if there is a hitch, he deals with it swiftly in the same professional manner.



Photo: Gary Phillips

A ferret having its locator collar fitted

EQUIPMENT

There are just two items of equipment essential to ferreting to hawks; a locator and a spade. And essential they truly are. Without them, even the most skillful ferreter is assured more than a little misery. The locator operates just like hawk telemetry; the ferret carries a collar-mounted transmitter that can be pinpointed with a hand held receiver. When things go wrong below ground, this bit of equipment is the lifeline between ferret and ferreter.

The spade simply makes the information it's relaying useful. When a ferret has killed below ground, nothing is quite as reassuring as a positive signal and trusted spade.

THE FERRETS

Enjoyable ferreting begins with good ferrets. There are three main considerations. Firstly, only young stock that have been well-handled from an early age should be considered. The neglected ferret, the animal that progresses through its early life never knowing hands, is

the famous biter who ruins the experience before it can get underway. Secondly, they should be from working lines. The keeping of pet ferrets is now commonplace and so it pays to check. Finally, a note on colour. Ferrets come in a variety of colours but are most commonly separated and discussed as albino and polecat-types. Some authors suggest that only albino ferrets should be considered due to the fact that the hawk accepts them more quickly and is less likely to make a mistake. In my experience both types are viable, the hawk learning to recognise the ferret regardless of colour. That said, the albino does have the advantage of being more visible in cover, and so if there is a choice, this animal is perhaps the wisest move.

THE HAWKS

While all of the hawks associated with normal rabbit hawking (i.e. the goshawk, Harris' hawk, red-tailed hawk, ferruginous hawk) can be used for ferreting, one or two comments on their various strengths and weaknesses might not be out of place. As a measuring stick, let's use that most typical of bolted rabbits, the grey blur that goes into the record books as one of the fastest animals on earth! To tackle this customer, a hawk needs ejector-seat acceleration. We immediately see a problem for the bigger buteos, particularly females.

The ferruginous fares extremely poorly. For a hawk that considers a hare on the horizon to be just about perfect, the frantic dash of a bolted rabbit doesn't even allow it to get on the wing properly. If we want to be brutally practical, the discussion can be hacked down to just two species, the goshawk and the Harris'. And gender? My choice would be for females due to the fact that some rabbits will require a bit of bulk to stop them. If we wanted to narrow things down still further, and crown the best 'all rounder', the hawk most able to deal with varied landscapes, weather conditions and ferreting techniques, then the Harris' wins hands down.

SUCCESSFUL FERRETING

The main reason for disappointment with ferreting is a failure to give the quarry sufficient respect. To the newcomer it's all so straightforward; ferret goes in hole, rabbit comes out.

But so very often; ferret goes in hole and nothing, not even the ferret,

below, possibly to be killed. This seemingly suicidal behaviour is the thing that causes the novice ferreter so much grief. He imagines that no matter how clumsy his antics above ground are, a rabbit must bolt. But a really fluid ferreting operation revolves around persuading unsuspecting rabbits to leave the

see how it works' guest! And the hawk's not always faultless. An impatient bate and the bell ringing that goes with it, will do just as nicely as your guest's last question. And all this before we've even assessed the warren and considered its suitability; is it too large, too close to another warren, too near

Female Harris' with her prize



Photo: Martin Hollinshead

comes out. The rabbit's warren isn't just a place it runs to to escape danger, it's a 'bunker' from which it monitors the world above; its radar ears can track a mouse on the move, and its nose will pick up an alien odour at two miles. Any hint of danger and the rabbit will sit it out. And should some lithe assassin enter its sanctuary, the bunker itself comes into play. The intruder is suddenly in a complex network of tunnels, a labyrinth in which its prey has simply disappeared. Now an exhaustive subterranean hunt ensues. The rabbit's evacuation of the warren isn't an automatic move. If it senses danger above, it may stay

warren – not trying to bully them.

Rabbit warrens MUST be approached and worked with the sensitive nature of their occupants in mind. Blunder up with the wind at your back and the ultra-keen nostrils will mark your progress with pinpoint accuracy, and to talk, cough, or sneeze will have the site flash to red alert. The wind direction rule should be an easy one to follow, but on open ground where the location of warrens are not known, it's all too easy to meander about and find the wrong warren! Open ground has to be worked in strips into the wind. Even unwanted noise is sometimes difficult to guard against – especially if in the company of a 'desperate to

some hazard, and, if we have to dig the ferret out, can we? Big warrens with multiple holes can have the rabbits shooting in and out like lunatics and refusing to bolt properly, and these monster warrens also make the ferret's life hard – remember the labyrinth? The close proximity of another warren can mean very short runs, with the hawk given no chance to make contact. Hazards are normally man-made; a nearby fence can spell disaster for a hawk in full pursuit. And digging, well, rock piles and tree-root warrens just grin with defiance, as does frozen ground. A final consideration might be the weather. Rabbits will bolt under most conditions (if they're in the mood!)

but a really windy day can have them thinking twice.

Also, a real blow on flat terrain makes flying from the glove difficult. The scent danger has to be balanced against the ineffectiveness of the hawk when flown against the wind, and no matter how careful things are managed, the rabbits often decide to work to their own plan.

Now the detailed nature of ferreting starts to come into focus. And the considerations continue once the green light has been given and a ferret sent to work. One of the most frequently seen mistakes is that of taking up a position right on top of the warren. The 'crowded' rabbit either doesn't bolt or doesn't depart correctly, returning below ground in a flash. The warren-hugging ferreter is often prone to another disastrous complaint – impatience. It can take a surprisingly long time for a ferret to move the rabbit(s) from a warren. At larger sites, two, or even three, ferrets might be needed, and if youngsters are involved, there may be many stops and starts. It's not at all uncommon for a ferret to appear at the surface and, if each time one does, the ferreter runs across the warren to 'stuff' it in another hole, the outlook for smooth action is poor. With the heavy thump, thump, thump of boots echoing through the warren what sane rabbit would bolt? A young ferret may require some assistance but by and large, if left to its own devices, a ferret will normally return below ground to continue the hunt.

DOGS?

Some ferreters won't have dogs at any price, and with the need for so much caution, and disaster just one clumsy action away, their reluctance isn't difficult to understand. Yet many operators lean exactly the other way, they simply can't imagine a dog-less outing.

There is a clear argument for both standpoints. The bottom line is the dog itself. A dog that doesn't understand ferreting and needs constant instructing just to keep it out of trouble is an obvious liability. On the other hand, the dog that has

been prepared for ferreting, and knows the traps of its secret mission, is priceless. Its role? To mark warrens.

Ninja-dog floats over the landscape, sifting occupied from unoccupied sites, and on ground that may contain a lot of vacant warrens, this will save a lot of disappointment and help build a really solid team. In this respect, the ferreter's dog can be likened to the game-hawker's companion in that its 'promise' brings commitment from the hawk. However, unlike game hawking, where tradition has a strong presence, the ferreter's hawk might be focused on just about any kind of canine. To be sure, ferreting – rabbit hawking in general – has plenty of colour. My own helper follows this flamboyant trend, he's a border collie!

THE SPICE OF LIFE

Ferreting provides some of the fastest rabbits in falconry and some of the most varied flights. Open country hill-rabbits are record breakers in all respects, they have to cover bare ground and cover it quickly. Their emergence into the daylight happens with shocking suddenness. Rattling along the exit tunnel, they hit the surface and a supercharger kicks in.

Such rabbits 'fly' and may be missed several times before being secured or escaping. And those that are caught often continue to fly, hawk attached! When quite-a-bit-more-than three pounds of downhill rabbit gets grabbed by not-much-more-than two pounds of hawk, stylish sport turns into a bar-room brawl!

The high hills are also home to a very different type of pursuit – soaring over ferrets.

Traditional ferreting has always been direct-pursuit action involving goshawks. However, the development of broadwing falconry has allowed the sport to be stretched to include soaring, a previously unimaginable concept. Of course, the goshawk too can be highly aerial, but for controlled high altitude flying there are more suitable birds. Dominating this arena is the Harris' and for the

falconer who is already enjoying more typical soaring with the parabuteo, soar-ferreting is an obvious move. A warren-dotted hillside, an oncoming wind and we have ferreting at its most dramatic and most demanding. This is a discipline where that sensible dog earns its keep a thousand times over; disappointing a glove-sitting hawk is one thing, but asking one to wait in the wind while you try warren after warren is pushing things a little. And even when everything is in place, there's one final worry – that lift-providing breeze. Can those cosy rabbits be encouraged into it?

What a contrast woodland ferreting makes, a sneaking, creeping, private mission in a hidden world. But the woodland environment can be a difficult one to work in. It all comes down to the hawk and hunting style. In very thick woodland, off-the-glove flights to bolted rabbits are really only practical with the goshawk. Now, all those points gentilis lost on the high ground are swiftly won back. The big accipiter has an ability to race through tightly packed uprights in a fashion that not even the nimblest Harris' can match.

In woodland the goshawk ceases to be a bird, it becomes a high-tech missile that can't be shaken off. But the throne challenger won't be beaten and bounces back with tree-flights.

Flights from trees give the hawk a massive advantage and spots that couldn't even be considered when flying from the fist can be looked at with real seriousness. Flown in this way, the Harris' can be truly deadly.

From this basic foundation of flight-types, sprout a multitude of variations on each individual theme. No two set-ups are the same; steeper hills, windier days, thicker woods, and always fresh warrens that require equally fresh consideration. And to all of this is added the need to change tactics to suit the species of hawk being flown, perhaps even the individual bird. One thing's for sure, the ferret box can either be seen as a 'last resort' or the key to dazzling falconry. ■

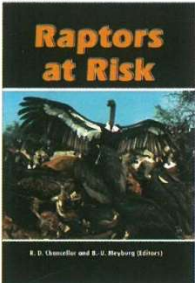


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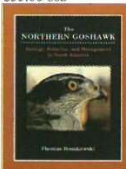
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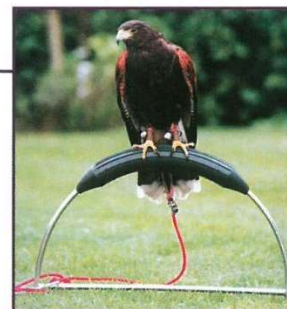
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Communications Bird, Dog,



Birds of prey have the capacity to remember and store information about successful hunting techniques. That is why a well trained dog is such an asset to good sport.

Good dogwork is one of the fundamentals of quality falconry. With a well trained and experienced dog, the bird quickly learns what to expect, is seldom disappointed, and just goes on to get better and better to ultimately achieve perfect style. Henri Desmont, who featured in my documentary *Grouse Hawking*, deliberately flushes grouse for his gyrfalcon when the falcon

is misplaced, so deadly has it become in dealing with conventionally served quarry. To compensate for this, the bird has learnt to go higher and higher and so cover a wider umbrella, providing even more spectacular (if unfilmable!) stoops.

Everyone knows that the secret to dog training is consistency, but the bedrock is undoubtedly good communications. Time and again I have seen that look of realisation on a dog's face; the moment when everything falls into place and the dog says, "*Gee! So this is what it is all about and what you have been*

trying to do! Why didn't you tell me before?"

But realisation cannot come without control and understanding. One word of command for one action; keep things simple! Why train a dog to *Sit* (haunches on the ground but fore quarters erect) and also to *Lie Down* (flat down), then to *Stay* (remain in that position), and perhaps another for *Stand Still* (Whoa! to our trans-Atlantic friends) and then use yet another word for the *Release* (run on)? That is five words for five actions. Of course, some will make life even more complicated for their dogs by expecting them to

and Realisation: Falconer.

by Derry Argue



Photo: Nick Kester

understand that the word *Sit, Down, Hup, Lie Down, Get Down*, or whatever words they happen to chance upon at the time all mean the same thing! Why not just teach flat down (or whoa), with the dog trained to remain in that position until released? That's just two commands for two actions – so training should take less than half the time and be twice as effective!

I use the word *Sit* for flat down, the action we have used to control a dog in Britain for over 500 years, then the same word to stop the dog in the standing position, or to cause a dog to pause momentarily when,

perhaps, roading in to flush or locate a bird. Why? Isn't that even more confusing to the dog? Not a bit of it. By changing my tone and emphasis I clearly communicate what I want the dog to understand. Isn't that what we do in human speech between ourselves?

Getting this degree of control merely by varying tone is achieved by never passing the opportunity to communicate with a dog from the time it is a small puppy. I was always taught to give the dog some signal whenever it looked towards me and the advice has served me well. Working with a lot of dogs does give

the professional the opportunity to learn the canine language by watching how dogs communicate with each other but the amateur has far more time to build a relationship and there should be no excuse for his all too usual lack of success in this area. Time and again I have watched falconers, otherwise good falconers, work dogs with obvious dissatisfaction. Oh, the dog is 'no good' and it is treated accordingly – as if it was a badly tuned TV set!

To illustrate what I mean, here is a typical scenario. I clearly recollect a mature pointer getting a kicking because it moved forward on a point

and the grouse flushed before the falcon was in position to make a successful stoop. Agreed, this is a frustrating scenario, but would you kick your falcon if it raked off or strike your goshawk because took a stand in a tree? Later, the dog got another kicking because it had a 'false point' – the falcon was put up over the point but no birds could be produced. Maybe they had moved, no one can tell. Both situations required more understanding from the handler than the poor dog received. It is just not possible for a dog to tell a deliberately lie – they make mistakes, certainly, but I have yet to encounter deliberate deception. I would go further and state that in my experience dogs are quite incapable of being untruthful (which is a refreshing contrast to human behaviour!).

In the first case, the dog had nothing to do with the premature flushing of what I judged to be an old grouse that had seen it all before and knew the sense of making off before the falcon got into position. In the second situation, the dog touched on ground scent and would normally have worked on to locate air scent indicating where the bird lay – but remembering the earlier punishment, it lacked the confidence to use its initiative to make a positive find, so stopped 'on point' at the first hint of ground scent. Prime examples of bad communications.

I was recently involved in a debate with a fox hunter. Does the pack of hounds work for the huntsman or does the huntsman work for the pack? My reply was that in my opinion they should work together, sometimes the pack takes command, sometimes the huntsman takes the lead – but it is essentially a partnership. That is what all successful dog work is about. It is integral to British folk law that the hounds love the huntsman. Hopefully, your dog also loves you and you are firmly established as the other member of his pack. The same lady also wanted to know why the pointer or setter owner needed to use an electric collar when she could control forty hounds without one....

Carefully watch two dogs working together in mutuality and you will quickly understand. One dog may give a short bark, the other immediately runs up to see what the fuss is about. But generally no words, or barks, are spoken yet the other dog quickly sees and understands the signals of his partner. If one dog



Photo: Nick Kester

wants another to follow, the silent signal *follow me* is transmitted by a slight change of angle and pace. It is all so subtle and happens so quickly that it is easily missed if you don't know what you are looking for. Dogs are quicker than humans in their reflexes and much faster in their perception of what is important to them. Yet it is something we humans can very successfully emulate and use if we are aware of it.

Dog training is primarily a communications problem. I wondered for a long time why the professional trainer could manage to turn out perhaps a dozen trained dogs a year while the amateur was still struggling with the same one dog two years later. It is certainly nothing to do with the time spent training the dog. Many keen amateurs spend far more time training their dogs than the professional ever would yet achieve nothing like the same success. Where the amateur can

score over the pro is helping his dog gain relevant practical experience in the hunting field which is why you seldom see the professional working a good dog! The professional is usually giving a youngster that very necessary but time consuming experience and the veteran who doesn't need it is left at home in the kennel!

The good professional trainer will know how to read his subject's body language. Dogs talk all the time but they use very subtle body movements rather than sounds. The pro knows what his dog is thinking and what it is likely to do next from watching these signs and signals. The amateur blunders on oblivious of what his dog is telling him and so spends 90% of his time correcting faults which should never have occurred in the first place. A bird of prey will soon learn to recognise the signals the dog transmits if it results in game being presented in a regular manner. That's why the falconer who spends the whole season on the grouse moor will consistently kill more game with indifferent dogs and poor hawks than another whose hunting companions are far superior yet never have the same opportunity to become attuned to working with each other over a period. But all things being equal, the man with the good dog will ultimately have the better falcon.

Training animals doesn't have to be hard work. Every summer I let my farm for grazing with cattle. These are hill cattle and they arrive as wild as red deer. Loading them up at the end of the season was going to be a problem. I built a loading bay and rounded them up before the lorry arrived. But some broke out and, now spooked, proved shy of going into the enclosure a second time. My tenant promised to bring his motorcycle to help round them up for the second load. But when he returned, all the cattle were safely secured in the bay. How on earth had I managed to do that all by myself, he asked? Simple. I just called them into the enclosure!

The cattle were trained to come to call over the summer. Every time I opened a gate to let them into a fresh

field of grass I called to them – so they became habituated to coming to my call in the expectation of getting the usual reward of fresh grass. I was consistent. Two years later and I have these cows back again. But they are now mature with calves at foot. And they still remember my call and come running when I shout, udders flapping like the gross matrons that they are.

My dogs get treated the same way. I talk to my pups, gesticulate and simulate jerky canine play movements whenever I pass their run. In return, I get that single yip of canine delight and ear twitches that signal recognition. They get out for exercise at least once a day and have learnt to come instantly to call. How? I give one shout or whistle and then walk off smartly in the direction I intend to go next. The pups have learnt that if they do not respond quickly, they will be left behind or, worse, they may miss out on a game or some petting. Most of the time, they don't even need the call – a mere change of pace and direction will do the trick. They remember this long into maturity. Coming to call warrants a reward – even though they may have committed some minor crime. That reward may be no more than a brief canine nose to human hand contact or even a well timed glance. We'll solve the problem of that transgression by stage managing a similar situation in the future so the pups are not confused by conflicting signals.

As a further example of bad communications, I watched a falconer work his pointer in increasing exasperation. The dog dropped its head and pointed at the scent left by a travelling hare on the vegetation as it passed by. The dog pointed, and then, unsure, glanced back in his owner's direction for some hint, some reassurance. What the devil is he doing now? The amusing thing for me, as an uninvolved observer, was to hear the exasperated owner utter the phrase and to see the dog express the exact same sentiments in its unspoken body language! The dog did not have a clue what it was meant to do but

stopped instinctively on the scent trail. The owner, likewise, clearly had no idea that it was his duty to provide some guidance! They made a perfect pair – the dog not sure what game was being hunted because it had never been explained to him and the falconer imagining that the dog should know all the answers through centuries of breeding and an official looking Kennel Club registration certificate. But if that logic were correct, no child would ever need to go to school to learn to count; all it would need to do to make its fortune would be to go direct to the Stock Exchange! The latter proposition is so proposterous that it needs no explanation, yet an intelligent, well educated man could not realise that a dog needs a similar education to understand what its role should be in the hunting field.

As we all know, most dogs take to hunting naturally but to achieve the best results they do need some education in what and how they should hunt. Hopefully we have progressed beyond the Victorian idea that training is accomplished by 'rewarding good behaviour and punishing the bad'. Dogs do not share our sense of morals. Shouting and raving when your dog chases a hare is open to interpretation, as the lawyers would say. Is the dog to interpret your actions as encouragement for him to catch the hare or for a prohibition to indulge in the chase? And if, when he returns, he gets a beating, is that for failing to catch the hare? It might more convincingly communicate the message if the owner were to sit down quietly in the heather and wait for the dog's return – and make a fuss of him when he does come back. This is nonsensical to human reasoning but human and canine logic do not follow parallel lines.

That is why it is always to be recommended that a falconer should buy a dog that has had a season's shooting. The dog points, a bird is flushed, a gun is fired, the bird falls. Assuming a sensible introduction to the sport, that is something a dog can understand. My own technique to complete the same process is to

introduce small pups to bob-white quail trained to return to a call-back pen. Instinct encourages the pups to chase something small and fluttery. Very soon they learn to associate the sight of the bird with its scent, and then with its location hidden in long grass. Flushing and chasing without the reward of a kill is frustrating so they instinctively start to stalk and then to point. Later the point and that natural forward stalk will be controlled or inhibited by the same word I use for the *Sit*. Most of the work is done before the pup gets anywhere near the heather. A quicker way to achieve similar ends in an older dog is to use that line of pigeons technique explained in *Bird Dog Basics*. And those hares? Well, pup has seen all that before. Or at least something similar. A few chases and they realise they are wasting their time and efforts. Then a few birds are carefully killed to their successful points (with due considerations to the dangers of causing gunshyness) and everything slides into place. Experience will teach them the difference between the ground scent left by a hare and the air scent of a covey of grouse wafted to them on the breeze. The dog is a predator and its natural desire is either to kill or to participate in the kill of another member of the same pack – the falconer. It is but a short step to that realisation that the falcon is an ally which will, occasionally, kill the grouse without the gunshot. When you have a dog that realises what the game is all about, you own a treasure beyond compare. When the falcon also realises what is happening down there, you are on to a winner. It is that teamwork that successful falconry is all about. And that is a thousand miles from that poor confused brute that was kicked up the backside because it did not understand. How could such a dog comprehend what it was expected to do? The falconer who owned it never caught anything anyway – and the tragedy of the story is that I expect he is still wondering why he never succeeds! ■

Photo: C Norrgran



by David T. Moran

The Time: *Winter, 1999*

The Place: *Eastern South Dakota, USA*

The Cast of Characters:

The author, his companion, P.J., his female gyrfalcon, 'Jaws', a massive flock of snow geese.

For a falconer, being out in the field and watching several thousand snow geese winging their way overhead on migration stirs the soul. Their magnificent wildness takes us back to our roots. These avian envoys of the Unseen Power rekindle the primal fires that still burn in our brains, re-establishing our instinctive connection with the Universe and breaking the man-made shackles of the modern world that hold one so securely in place during the work-week.

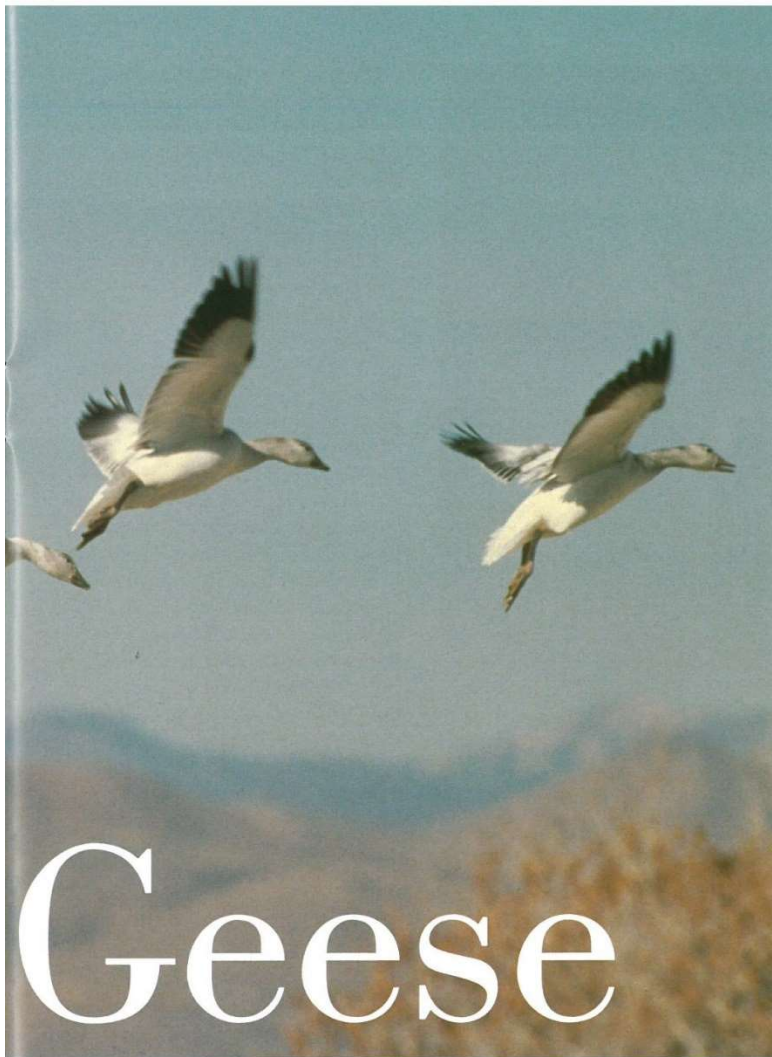
Snow geese are waterfowl that spark interest in one who flies large falcons. Bigger than mallards yet smaller than Canadian geese, the lesser snow geese migrate up the

central flyway of North America from their wintering grounds near the Gulf of Mexico to their breeding grounds in the Arctic tundra. Their numbers have dramatically increased in recent years. Snow goose populations have undergone such an explosion that this year (1999) the hunting of them was encouraged, the season extended, and bag limits all but removed.

My interest in hawking snow geese bubbled to the surface several years ago when Dr. Greg Hayes and I went off on a late-winter automotive safari from Boulder, Colorado northeast to Bottineau, North Dakota. (Greg, who trains exotic animals for motion pictures, had promised to



First flight at Snow



Geese

Photo: Perry Conway

deliver a giraffe named 'Jeffrey' to Bottineau and help a Dutch film-production company make a soda-pop commercial that featured, of all things, a reticulated giraffe gallivanting in the snow. But that's another story.) As we wended our way north through melting snows, dodging telephone poles downed by a recent ice-storm, it was clear to even the most wildlife-indifferent motorist that the spring migration was in full swing. Upon entering the Dakotas, we were greeted by the sight of hundreds of thousands of snow geese, birds we do not often see in our part of Colorado. Some geese flew overhead in loose formations; others rested on the ground while

feasting on the abundant food in and around the rich wetlands.

Being falconers to the quick, Greg and I – as do all of you who hunt with hawks – see every new situation out in the country as a potential slip, be it a jackrabbit crossing a road for a goshawk, a flock of starlings in a field for a merlin or small accipiter, or ducks dabbling in a pond for a falcon. Whereas others travelling through new country simply see 'scenery,' falconers scour the landscape and find game. Consequently, it was only natural that the sight of strings of snow geese laced out across the skies made visions of flying my female gyrfalcon at these big, beautiful

waterfowl dance through my head. As if reading my thoughts, Greg said: "Hey, Dave. Wouldn't it be great to fly our birds at snow geese? They're exactly the right size. Should be one hell of a flight! Hey, like I say, these female gyrs should have no problem taking them."

Although we couldn't avail ourselves of the opportunity to let loose our falcons at geese on that trip – Jeffrey was a particularly demanding giraffe – that happy thought kept going through my mind. It's always fun to try new quarry!

The following year, there was a surfeit of snow geese and the time was ripe. I decided to let my fourth-year chamber-raised gyrfalcon, 'Jaws', have a go at them. A big, strong, aggressive predator, Jaws had put in an impressive series of stoops at several large fifteen-pound Canada geese last season. I was quite confident that, given the right slip, she'd take a snow goose – if indeed she viewed one as a tasty dinner on the wing.

Late this winter, after the final bell had rung on our grouse season, South Dakota called out to me. Not only were record numbers of snow geese passing through the state on migration, but also my dear friend, P.J., had written and invited me to come up to visit her up in eastern South Dakota. Needless to say, I jumped at the chance. In record time I packed up my pickup truck with dog, falcon, hawking gear, enough clothing to last for a couple of weeks, and the usual survival stuff to permit surviving one of the savage snowstorms the great plains of North America can dish out. Such storms can bury a vehicle for days.

Driving northeast from Boulder, Colorado on a sunny morning, the short-grass prairie of eastern Colorado gradually gave way to the lush, waterfowl-rich Platte river valley of Nebraska. There, thousands of sandhill cranes pranced about in fields near the highway. The males were doing everything in their power to impress the females. The females, however, seemed more interested in eating. Stopping to stretch a bit and have a better look at these tall,

elegant birds, I heard the rusty-gate sounds issue forth from the long throats of hundreds of other sandhill cranes as they darkened the skies overhead. "Good," I thought to myself. "The crane populations are in good shape. But – where are my snow geese?" Upon reaching Ogallala, Nebraska, I tacked to the north and headed into the sandhill country from which the cranes derive their name. I angled my way northeast for several hundred miles on two-lane blacktops, marvelling at the richness of life in the grass-covered dunes and valleys of the sandhills. As I drove by a sign saying "Welcome to South Dakota", the topography of the Earth's surface began to change. The rolling sandhills gave way to vast unpeopled reaches of agricultural fields and wetlands that stretched clear to the horizon. As I approached the Missouri river valley in the eastern part of South Dakota, the amount of water – and, as one would expect, the number of waterfowl – increased dramatically. There, I saw exactly what I was looking for: massive flocks of snow geese, most white, some blue, just needing to be chased by a gyr! Though sorely tempted to get Jaws out of the back of the truck and let her have a go at them, I bit my lip and waited. It was getting late, and I wanted to get to P.J.'s before dark. We hadn't seen each other in several months. The forces urging me northward to her were every bit as strong as the forces of nature that had pushed millions of snow geese to the Dakotas. At this point, I did not want to be de-railed by a long telemetry chase into unknown country.

I arrived in town much sooner than expected. Fortunately, P.J. had gotten home from work early, and was there to greet me when I pulled into her driveway. It was so good to see her – and so good to be on another adventure! As we got caught up on the events of each other's lives over a memorable dinner and a lovely bottle of wine, we hatched a plan. (P.J., being a bird lover and the owner/servant of a somewhat spoiled macaw, had seen my silver jerkin



Jaws weathering at the block

Photo: Dave Moran

'Lancelot' put in some fine flights at ducks in Colorado. Intrigued by falconry, she was anxious to watch Jaws in action on the Dakota plains.) Although she had to work on the morrow, P.J. figured she could be home by three o'clock in the afternoon. While she was at work, I'd weather Jaws in the back yard, go to the local sporting-goods mega-store, obtain the proper hunting licenses, and inquire as to where goose-laden fields might lie.

The next day I walked into the hunting department at Scheel's and was greeted by a bright, cheery salesman I'd met there during my last trip.

"Hi there! You're Dave, the falconer, right?"

"Right, Brian," I answered (while checking his name tag to ensure I'd got it right). "Great memory!"

"Got your hawk with you?"

"You bet. She's out in the yard weathering even as we speak. I'm going to give her a shot at snow geese this afternoon if I can find a good slip."

"Snow geese? You've got a bird that will take snow geese?", asked Brian, aghast.

"If she wants one, and I can give her a good slip, she'll poleaxe it. She's big, strong, and fast. Trouble is, she's never even seen a snow goose. So I really don't know what will happen. But – she's pretty keen today. I think she might just put the fear of god in them. Speaking of snow geese, Brian – any idea where they're likely to be hanging out today?"

"Sure, Dave. Just drive out west of Tea and north of Parker. Only about a half-hour from here. You'll see them out in the fields by the thousands! The landowners are pretty friendly. Anxious to get rid of the things. Those snows ate a lot of crops last year. Just knock on the ol' farmhouse door – they'll let you hunt!"

Brian's optimism was contagious, and raised mine to new levels. Success was in the air. After I'd secured the proper licenses and a detailed map of South Dakota, I set out in the direction Brian had suggested. When I got just west of the small town of Tea and north of the even smaller hamlet of Parker, there they were – huge flocks of snow geese! How nice it is when things work out, when a supposed "great hunting spot" (we've heard of lots of them, right?) turns out to be, in real life, a great hunting spot!

I hastened back to town, disregarding all speed limits, and met P.J., who had just arrived home from work. We walked together to the back yard where Jaws was happily weathering, disdainfully ignoring the

raucous crowd of crows that were taking exception to her presence. As I picked up Jaws from her block, P.J., with a wonderful, understanding glow in her brown eyes, walked up to the bareheaded falcon and started talking quietly to her. Jaws didn't bate. (Now, that was astonishing, for my gyr is a somewhat wild, hot-tempered, chamber-raised female that has become extremely one-mannish. Although quite tame with me, she'll usually bate and/or scream in anger at a stranger's approach.) I was delighted to see that Jaws seemed to sense P.J.'s gentle good nature, allowing my ladyfriend to come up, talk to her, and even pet her. I could feel the gods were on our side. Today would be a good day to fly.

I produced the hood and placed it at an angle beneath Jaws's beak. She promptly placed her face into it, showing she was eager to hunt. The scale told me our feeding and weathering regime had worked: her weight was spot-on. We set her on the perch in the truck, closed the tailgate, fired up the big Chevy V-8, and headed out into the country. It was a fine day – sunny, a bit of wind (which Jaws loves), the temperature a comfortable notch above freezing. Driving west from the town of Tea, we saw a huge flock of snow geese standing near the shore of a small lake surrounded by many acres of wetlands. There was water everywhere. Unfortunately, there were ducks everywhere, as well. Given that we wanted to fly geese – and Jaws had caught ducks, but not geese – the large number of ducks posed a logistical problem. Hmm.

After securing permission to hunt from the landowner, we pulled the truck over and parked by the side of the road several hundred yards away from the snow geese. Now craning their necks in unison – apparently having been greeted by humans emerging from pickup trucks, guns a-blazin', before – the flock was keeping us under close surveillance. Having a keen eye for the obvious, I wondered: how were we ever going to get Jaws, who usually hunts from a very high pitch, to take station over

the geese before she checked off at a duck on the wing and chased it over the horizon?

"You know, honey," I said to my companion, "We've got a problem. There's no way we'll be able to get Jaws waiting on over those geese. To do that, we'd have to release her a half-mile away where she can't see them and they can't see her. Then we'd have drive back here and have her follow the truck* until she's a thousand feet high over the geese – then get out and flush them under her. By the time we've managed to do all that, she'd for sure have raked off after a passing duck. Then we'd find her with telemetry off somewhere in the boonies sitting on a mallard."

"Well, you know her better than I do, Weazel,"** said P.J. "What do you think we should do?"

I pondered the situation for a while, and had a brain wave. (One of few, to be sure, but a brain wave nonetheless.)

"You know, Jaws was originally trained to fly out of the hood straight at game off the fist in the Arabian style," I said. "Maybe we'll get as close to that flock of geese as they'll let us, hold Jaws up on the fist, take off the hood, and see what happens!"

Seeing all that water and marshland stretching out for a mile in front of us, it became apparent this might be one very wet flight. After backing the truck some distance away from the geese, I stepped out onto the dirt road and put on my knee-high rubber-bottomed, leather-topped, felt-lined Schnee outfitter's boots. It took five minutes to lace them up. In my mind, I could hear imaginary hawking companions telling me to hurry up, forget the boots, there's a flight to be had. But the hunter part of my brain told me I had to be prepared, to take my time, that something serious was about to happen. As I got ready for battle, P.J. took off her running shoes and slipped her slender feet into a spare pair of my waterproof boots. Smart girl. Dakota born and raised, she knows how to handle the cold. Boots on and snug, I zipped up my Cabela's Dri-Plus waterproof hunting jacket,

took the hooded gyrfalcon up from her block in the back of the truck, and clambered into the driver's seat. With falcon on the fist, I eased the truck forward until we were a football field away from the snow geese. I opened the door at a glacial pace and eased my feet out onto the ground. As I did so, ducks started flushing all over the place. The geese (thank goodness) stayed put. When the ducks were gone, leaving only geese in the field, I unhooded Jaws, slipped the kangaroo-leather jesses out of her Aylmeri bracelets, and slowly raised her up for a better view of the quarry. She rattled her feathers ready for flight, raised her long tail, and squirted out a healthy white jet of mutes to lighten her payload for the coming chase. Bobbing her head, black eyes wide open and facing forward, she took the measure of the snow geese. (God, it was a big flock. Must have been more than a thousand of them). If Jaws didn't know what they were – never having seen one in her life – the snow geese certainly knew exactly what she was. Necks craned to lengths that would bring a smile to the face of the hangman, the hypervigilant anatids stood at the ready, trying to figure out the best way to survive the impending air-strike.

The sense of alarm projected by the prey was not lost on the predator. The big falcon launched herself off the fist and headed straight for the snow geese as I'd hoped she would. Suddenly, she banked into a hard right turn, wings beating faster, climbing upward in a steep parabolic arc. I looked up. Far out and ahead of her were...ducks! A small cluster of airborne ducks which, having seen her, were quitting the premises as fast as their stubby little wings could carry them. Uttering a suitable expletive, I jumped out of the truck and onto the dirt road. P.J. ran over beside me. "Where's Jaws going?", she asked.

"After those miserable ducks," I answered. "Let me see if I can wave her over."

I called to Jaws, now several hundred feet high and a quarter-mile away, waving my hand, mentally

projecting myself out to her and into her, motioning her toward me. My heart raced when she looked over her shoulder, saw me waving her over, and started heading our way, maintaining her pitch. Meanwhile, the geese, hearing the commotion and seeing the gyr's receding form, had lifted off the ground like a squadron of bombers. As they slowly lumbered into the air, Jaws got missile lock on them and began a long, slanting stoop. Just as starlings will do at the approach of a merlin, the geese suddenly balled up into a tight, swirling spiral. That tripped the falcon's trigger. She poured on the coals, driving at the centre of the flock. As she dove into the dense, swirling spiral of snow geese, a hole opened as if by magic. Jaws shot through it, came out the other side at speed, stood on her long tail, looked over her shoulder, and pitched up several hundred feet as only a gyr can do. By now, the geese were deeply concerned. The falcon rolled over and stooped diagonally down through the flock once again, pitching up empty-footed. Confused, she broke off the chase and flew toward us, rapidly gaining altitude, with a questioning look on her face (visible through high-powered binoculars) as if to ask, "What's up, boss? What do I do now?"

Since she was clearly seeking direction from me, I waved her over toward us. When Jaws was directly overhead, P.J. and I raced across the field toward the geese, yelling "Ho, ho, hoooo", flushing more geese under her (some laggards, playing it safe, had stayed aground). Suddenly, Jaws's whole body language changed. Wearing the visage of the determined predator, she raked her wings back in that delta configuration, cut in the afterburner, and accelerated hard toward the second wave of just-having-been-flushed snow geese.

"Watch this, P.J.!", I said. "Something's going to happen now. Something's going down. Hard."

With wings half-tucked and pumping at full power, the big white gyr hurled her body earthward straight into the swirling flock of snow geese and disappeared in their

midst. We heard a 'Whump!' like a baseball bat hitting a pillow just as a shower of feathers burst into the air. The gyr emerged from the far side of the flock carrying a large limp dark object dangling from one foot like a suitcase. Through the binoculars I saw she had caught...a duck! A stray duck had taken refuge in that flock of geese, and she'd singled it out and caught it! Damn!

"She got one!!", exclaimed P.J. happily. "She got one! I've never seen anything like that! She's wonderful!"

Hearing the excitement in my lady friend's voice, I got excited, too, (even though what Jaws had caught was not exactly the quarry upon which her falconer was focused). "Yeah! She hit that thing hard!!", I replied, happy that we'd caught something. Jaws had smacked that duck when it was a hundred feet or so above the ground. Her momentum carried her, and it, over the lake. Having mud-wrestled ducks in the water before, Jaws had no intention of doing that again. She flew purposefully with her quarry for a few hundred yards until she came upon the most solid piece of terra firma she could find – an island. Yes, an island. She came to ground in a pancake landing, quickly dispatched the mallard, and started plucking happily away.

"Well, P.J., that was an interesting flight. Unfortunately, she also picked an interesting landing strip. This is going to be one tough retrieve."

"It looks like she's on an island."

"That she is. Let's go out into the field and see what we're in for."

We crossed the road, stepped across a mushy ditch, and were immediately confronted by a barbed wire fence backed up by a high-voltage hot-wire.

"Terrific," I said. "All I need to do is arc a few hundred volts through my private parts."

"Ooh, don't do that," said P.J.

Hearing my approval of her concern, P.J., wearing a knowing smile, lifted up the barbed wire fence. I crawled under it, avoided the hot wire, and heaved myself upright (and intact) on the other side.

"P.J., you're from this area. You



Photo: Dave Moran

know these lakes. How deep is that one likely to be?"

"I don't know, Dave. It might be shallow. But, then again, my Dad, who used to guide around here, told me lots of them have quicksand in the bottom."

"Wonderful," I said. "Ol' Murphy rears his ugly head once again. Tell you what. I'll try wading across that lake. If it's shallow enough, and the bottom's solid, I might just be able to



Jaws on a mallard

get to that island before Miss Jaws polishes off her all-U-can-eat meal."

"Be careful, honey," said P.J.

"Those boots are heavy, aren't they?"

"Mmm", I replied, non-committally, only now realizing their heavy steel shanks would pull me under water like anchors. I strode across the field to the soft, muddy shore of the partially-thawed lake, waded out into it, and could feel the ice-cold water seeping over the tops

of my knee-high boots as the lake proceeded to get very deep very fast. The soft, gooey bottom sucked my boots down into it. I had hoped that, since the lake was almost frozen, the bottom would be, too. Not today. P.J.'s Dad, who had been a hunting guide, was right. The bottom was, in fact, quicksand.

After extracting my lower half from the goo, I retraced my steps back to the road, where we re-

surveyed the situation. The lake stood between us and our falcon. The opposite side of Jaws's island was bordered by wetlands partially filled with cat-tails sprouting six feet out of the water. Perhaps the water was shallower over there. The wetlands could be reached from the other side of the field. We drove about a quarter-mile to the east end of the lake, stopped, and glassed the area. It was getting dark, and Jaws was

getting full. Things were not looking good. I did not wish to have my sated falcon consumed by a marauding great horned owl, of which there were plenty in this vicinity.

"P.J., I'm going to walk to the other side of the field and try to slog through those wetlands to get to Jaws. I won't be able to go straight – I'll have to follow the path with the firmest ice or the shallowest water – and so I'll lose sight of her. Could you give me hand signals from here telling me where she is? I'll be completely disoriented when I get to the other side of the lake."

"All right," she answered. *"But be careful. What should I do if you fall in?"*

"Better call out the National Guard," I said, laughing. *"The cell phone's in the truck."*

"You've got a strange sense of humor, Weazel," she said, bravely, shaking her head, knowing there was little she could do if I sank.

To make a long journey short, I slogged my way through the ice, water, mud, and muck of the wetlands in what has to be the longest, most difficult retrieve yet. It took me well over an hour to plod through only three hundred yards of swamp. The cat-tails were taller than me. Their stalks, woven into a night-impenetrable basketwork, emerged from chunks of snow-covered ice floating in water which was anywhere from knee-deep to chest-deep (or worse). You'd take a step, feel some (apparently solid) ice underfoot, put all your weight on that foot, hear a 'Rrr-errack!' and feel the ice break as your leg submerged, boot buried in some godawful goo that was, in large part, goose poop. Then you'd bring the other leg up to that one, and start over, breaking a path through the meshwork of cat-tails to make way for each step. You'd fall, get soaked, then have a hard time getting up, for the water was too deep for your arm to reach bottom.

At one point, I had to stop. I was running out of gas. Panting with exhaustion, I was sweating like a horse even though I was up to my keester in ice-water. As I stood there, feeling very much out of shape, an

awful thought crossed my mind: What if I can't get to my falcon? Immediately, I put that thought out of my mind, saying instead, *"I Will Not Fail: no matter what, I Am Going To Get My Bird Back!!"*

P.J., blessed with wonderful instincts, gave me just the right hand signals and guided me to the right spot. Upon reaching the shore of the island, I heard Jaws' bells tinkle as she moved about. I followed the bell-sounds and was greeted by one of the most wonderful sights I've ever seen. There she was! A big white gyrfalcon with an enormous gorge, happily sitting on top of her catch! She looked at me, tilting her head to one side affectionately as if to ask, "Now, just where have you been? I caught a duck while you were off playing!"

As I sat down next to her, joy surged through my being like an incoming tide – the joy peculiar to falconers who recover a lost bird. Jaws shifted her quarry about under her feet, took another bite or two of duck, and looked over at me expectantly. I took a jackrabbit leg out of my hawking bag, placed it in the palm of my iced gauntlet, and blew the whistle. Jaws lumbered up to the fist and began to eat heartily, despite her bulging gorge. I reached into my the pocket of my soaked jeans, fished out the now-limp kangaroo-hide jesses, threaded them through the brass grommets of her bracelets as she ate, and clipped them to the glove-leash. With falcon secured and happy, I gave a 'thumbs-up' to P.J., who was standing on the road watching the whole show with binoculars. She seemed as happy as I was.

The return trip through the wetlands was even tougher, for now, having a falcon on the fist, I had only one arm to balance with. I had to be careful to hold Jaws over my head so she wouldn't drown when I fell or hit a deep spot and went underwater (which happened all too often). In all my years as a SCUBA instructor, I'd never encountered an aquatic situation as strange as this...where was my wet-suit when I needed it? Having got my falcon back and seeing her on the fist gave me a

second wind, and we made it back in good time. As I neared the road, P.J. ran up and gave me a long, warm, hug. It was good to be alive.

The setting sun saw three happy creatures leave the field. Jaws roused contentedly on her perch in the truck, shaking off the mud and water. Being an Arctic falcon, she was right in her element – cold and wet and full of waterfowl. I was soaked to the skin, beginning to feel the cold, and yet couldn't have been happier. P.J. warmed my icy fingers in her warm, soft hands as we made our way back to town.

"I've got to tell you, I've never seen anything like that, Dave. That was very special," she said.

"Yeah, Jaws is quite a bird, isn't she?", I answered proudly.

"Not just that. I mean, the whole thing was wonderful. Even if you were Michaelangelo, I could not be more impressed," she continued. *"The bond between you and that bird. The way you and she communicate. The way she reads your hand signals, understands your intention. That's got to be the most special thing in the world."*

And indeed it is. My falcon is a power animal that guides me through this lifetime, leading me out into the world of nature to do and see things I otherwise never would. How very special it was to be out in the field not only with my favourite falcon, but also with a warm, loving companion who truly saw – and felt – what had really taken place during our first flight at snow geese. ■

*Dr. Greg Hayes has trained his gyrfalcon, 'Q', to follow his truck for several miles to the site where quarry was previously marked down. This not only allows him to release Q far away from the game, but induces her to climb to very high pitches whilst trying to keep the speeding truck in sight. Greg helped me train my gyr to do the same.

**The nickname P.J. gave me on our third date, the reasons for which had best not be explained.

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OR

She arrived unexpectedly on my weathering lawn in the mid-eighties as an un-named, brown bird, screaming and mantling to display the mal-imprint that she was. Without an undamaged primary or tail feather to her name she was a sorry sight, a rescue job more than a hope. Over the following three years this peregrine falcon was named 'Bahri' and slowly adjusted. I trod a tricky and aggravating path through her many hang-ups seeking a way to make some kind of workable relationship. It was a baptism of fire to the world of imprints and more confusing than I care to remember.

She did come to relate to me and find the world of falconry enjoyable but what a slow and difficult task it was. She eventually gave up screaming but I often wonder just why I followed that path and did not give up with her to get an unblemished eyass starting afresh? Some of the frustrations were just mind numbing as she would seem to make great progress and then just get stuck, seemingly unable to move forward or backward. In her fourth year we had one of these episodes when the sugar beet was off the land, the fields bare and the quarry at its best. In mid December we had the perfect set-up near home. A small copse around a dry pond was shelter to a few pheasants and when flushed they would have to fly about 400 yards to the next cover. By this time she had got used to flying on spec. I would put her up and walk with the

spaniel working until something was flushed. Then it happened for no apparent reason. 'Spence' the spaniel had put out a cock pheasant and down she stooped as normal to put another one in the bag? No not at all. She just pulled into its slipstream and followed it to the wood.

For six long dreary weeks we became good friends with this old cock as day after day Bahri went through the same routine. I thought that she just needed a change to break the cycle and offered her partridge, ducks and other pheasants but she would not even look at them no matter what her weight or frame of mind. She had just got into a 'rut' – how could it be broken? Well it wasn't in that season. The following summer I took her to the US and hoped to fly her there but she just did not want to know. 'Brockard' the tiercel was great and also the passage prairie but Bahri just flat refused to fly.

Back home again and she was out of quarantine in March. What to do? I took her straight out of quarantine quarters and put her up over the copse. She flew like she had not been away! Not only that, she went and killed a rook as though she did it every day. Confusing? My introduction to imprints had been an aversion therapy and I vowed not to bother again.

Bahri however went from strength to strength and the next season defied all the rules to breed quite naturally with Brockard, a parent-

reared tiercel. To cut a long story short I was outmanoeuvred as one of her eyasses got an infected eye at three days old and had to be removed for treatment. When recovery was complete of course he was imprinted! The last thing I wanted was another imprint but by this time he was named 'Nelson' and a lot more thought was needed to get things right. Whilst in the US I had daily flown hawks with Jim Willmarth who flew a fantastic gyr/peregrine male imprint, one of the most spectacular birds I have ever seen, so dark, even on his breast, that he looked as if he had taken a bath in a bag of soot. Thankfully I had been shown the potential and the basics of 'how to' American style.

Now Nelson is eight years old and the experience has been fulfilment of a dream in the highest flying game hawk one could wish for with style beyond description. But more than that he has shown me a side of things not otherwise obvious. With the unexpected death of dear Bahri this past season I started Nelson's brother 'Napoleon'. The difference is that he is parent reared and the shock of returning to some old values was immediate and the experience not all that welcome.

Sometimes falconers ask "why do an imprint?" It is not an easy question to answer.

A falcon reared by its parents is imprinted with natural values and it is not until we take it into the mews



Photo: Seth Anthony

Parent Reared?

for falconry that the eyass, passage or haggard comes into the world of human values. The best that can reasonably be hoped for is that we are, through our training techniques, able to share something of the hunting experience with our falcon and the rest of her time is spent in toleration of us and the routines we impose upon her. We look for her contentment, her interest in the world around her, her eagerness to fly and are thrilled when it all goes well. But she remains forever a creature of the wild and her own values. Our sheer pleasure of a day on the moor with good friends, well trained hawks and dogs is treasured by us all. The camaraderie of the occasion in natural surroundings, a bottle of wine and good food shared with good friends means so much. The anti-climax at the end of the season when the hawks are put away to await the next season is hard to bear and disappointing to those who want to feel an ongoing pleasure in their hawks. Our training is a manipulation of her values.

The imprint however creates an experience so different from traditional falconry that it is hard to accept in many ways. To imprint a creature is to give the unblemished new born a set of values created by the imprinter and maybe not even related to what nature had intended. In this creation one finds oneself with a creature wholly focused upon the handler for every aspect of its life. There is no independence of

mind working to a set of values of its own. This bird is so nurtured that a relationship is created complete in all its aspects for the handler and the falcon. If abused and denied its need the imprint's mind is upset and it might shout for its satisfaction, even become a screamer (maybe the handler too). To live with the imprint is to take on a way of life in which the rewards are somewhat different from traditional falconry.

In many ways it could be seen that in traditional falconry one takes the wild creature and by various means of manipulation one tries to enable it to fulfil its individual talents and values as nature intended, with the falconer trying to maintain a control of the situation. With the imprint one is seemingly enabling both handler and falcon to contribute to the relationship their own abilities in a state of equality. Each being focused upon the other they give freely to display greater and greater opportunity to the other. If all goes well one is almost living with a bird that develops to the peak of its condition like a wild bird showing off its talents within its way of life for the sheer fun of it.

Even home life becomes an endless source of pleasure with the imprint as one is seeing this utterly content and fulfilled creature living in what it feels as its home environment, with its own treasured furnishings, familiar with its own world and family members. What a pleasure to drive in the gate and be

greeted enthusiastically by ones friends pleased at ones homecoming. Convenience might be a thing of the past as the end of season merely means a change of routine, tempo and a new set of challenges to keep ones friends amused in the long months of the off season. Working at the relationship can be more than a little daunting.

In trying to grasp what it is about, maybe it is essentially a difference between 'individual fulfilment' and 'fulfilment created through harmony of shared individuality'. The first might be described as born in wild creatures without human influence under natural values. The second as born out of human emotion and insight to create good feeling of itself through shared dependency and giving to each other. The first (traditional falconry) allows us the privilege to tame a wild creature and share limited aspects of its life until it eventually returns to its natural environment (Arab style) or is locked up for the moult. The second (imprinting) creates by Man's dictation an environment within which a created falcon and the falconer can share a life together in all of its pleasures and experiences. Having experienced both it is hard to make a choice – each has its advantages but in today's world only one feels complete. Is it also easy to see why spouses might get jealous? ■

Weight Management

An excerpt from a forthcoming book by Joe Roy III

1978 was a big year for me. I was sixteen years old and new experiences seemed to come with the scenery. I was a sophomore enrolling in a new high school, I got my first job and my first car. Though I had 'trained' hawks before, for the first time I was actually flying a genuine gamehawk. 'Shiekra' was a 48oz. passage hen redtail that I had trapped, trained and entered entirely on my own. Shiekra would hunt from the fist or she would wait on, soaring along ridgelines on the warm-up drafts. As Shiekra's head count rose, so too did my pride and confidence. I was riding the wave of enthusiasm and invincibility that engulfs us in youth. I thought I knew it all, but I didn't know enough to realise

that I was headed for a wipeout. Toward the end of that fateful season, my father (with whom I'd had little contact) invited me to spend a week with him on the Gulf of Mexico. I agreed and made arrangements to leave Shiekra with another falconer during my absence. On the day of our departures I dropped Shiekra off along with a supply of hawk food.

Mexico was great, our entourage consisted of several families, two of which had daughters my age. Plenty of ocean, sand and girls, a paradise of sorts. Nonetheless, after one week I was ready to get back to California and retrieve my redtail. Shiekra looked fine and hadn't been a problem though my 'friend' complained that I hadn't left enough hawk food and he hadn't bothered to get any. I took Shiekra out hawking and found her to be less enthusiastic than normal. It appeared as though she simply wasn't hungry enough, so I shortened her rations for the day.

The following morning, I took Shiekra hawking again and got a great slip, busting a bunny from cover just ahead. Shiekra launched and I gave her a smooth assist off the glove, yelling "ho, ho!" at

the fleeing rabbit. After a couple of wingbeats, the hawk just fluttered to the ground. I was instantly aware of what was happening, my hawk was too low, she hadn't had enough energy to pursue, and I felt as though I'd been punched in the gut. I had misinterpreted her performance the day before and had prescribed exactly the wrong remedy. Once I realised what I had done, I wasted no time and gave my hawk what it was she so desperately needed - food!, and lots of it. I allowed her to gorge herself, which of course was the proverbial 'last nail in the coffin'. Shiekra's digestive system became over taxed, because of her weakened condition she was unable to muster the energy required to process the meat in her jammed crop. As Shiekra's crop soured, her systems shut down, she died and my world was changed. It is with a sense of guilt and shame that I make this confession and it is in the hopes of diverting inexperienced falconers from making the same avoidable (classical) errors that I made. The fact that I have learned from, and am able to capitalise on these specific errors is a source of personal pride. No doubt, every gamehawk I have flown since this dreadful incident has benefited from the lessons I learned so long ago. This event has changed my philosophy and shaped



my approach to weight management. It was the catalyst responsible for subsequent experimentation in flying hawks towards the upper parameters of response weight (and beyond). There have been setbacks, like the day my overweight tiercel Cooper's hawk just flew away, but over the years I have honed a system that has enabled me to develop powerful, hardcore, gamehawks and consistently inter-mew them while sometimes other falconers seem to move from one tragedy to the next, year after year. I suspect that in many cases, the root of the problem may be traced to hawks being flown in low condition, predisposed to disease and other equally destructive forces. Looking back, the cascade of mistakes that I made then, are now blatantly obvious, and had I done any number of things differently, the outcome could have/should have been much different. I should have fattened the hawk up before going on vacation. I should have left more food. I should have left her with someone whom would trouble himself enough to acquire additional food if necessary. I should have put the hawk on the scale immediately upon my return. I should have felt her keel. I should have been more observant and correctly interpreted the signals the hawk was sending. Lastly, I never should have gorged Shiekra in a weakened condition, far better to feed small quantities of easily digestible food frequently – making sure the hawk is putting over each meal. Live and learn!

Weight management is one of the most tangible and essential elements of raptor training. Weight management is a skill that must be mastered by the falconer in order to fly an efficient gamehawk day in, day out, year after year. By accurately measuring and recording a hawk's weight at the same approximate time each day (after digestion of the previous day's meal is completed) the falconer can compare the hawks performance in relation to weight, factoring in any array of other

pertinent information and draw some logical conclusions. I am not a numbers person. I'm not fond of numbers and I don't retain them well either. Nevertheless, I do use a gram scale and I consider this to be the foundation of my weight management regime. Throughout the winter, I fly three gamehawks and I weigh them religiously. These daily weights would be rather insignificant to me without some sort of reference, a means of comparison. As I've stated, I'm not good at recording this information in my brain so I use a journal. The journal not only allows me to keep accurate record of daily weights of each hawk, but it also allows me to incorporate other useful information such as weather conditions, temperature, type of quarry flown, field performance etc. This gives me something solid and meaningful, another tool to help me keep my gamehawks in top form. I have used graph charts in the past and suggest apprentices use this format in conjunction with a journal because they visually and clearly divulge weight trends as they occur. This helps make things slightly more foolproof for the, sometimes overwhelmed, novice. I once had an apprentice confide that for a period of several days he had been 'misreading' his scale to the tune of 100 grams (3½oz), which of course is quite significant and in some cases could easily be fatal. It should be pointed out that a raptor may reach a given weight in three different ways; coming up, going down, or maintaining. Each of these three preceding categories will represent different levels of energy, appetite, motivation, and aggression. Therefore it is important to recognise which of these three categories pertain to the raptor's weight while comparing and evaluating field performance.

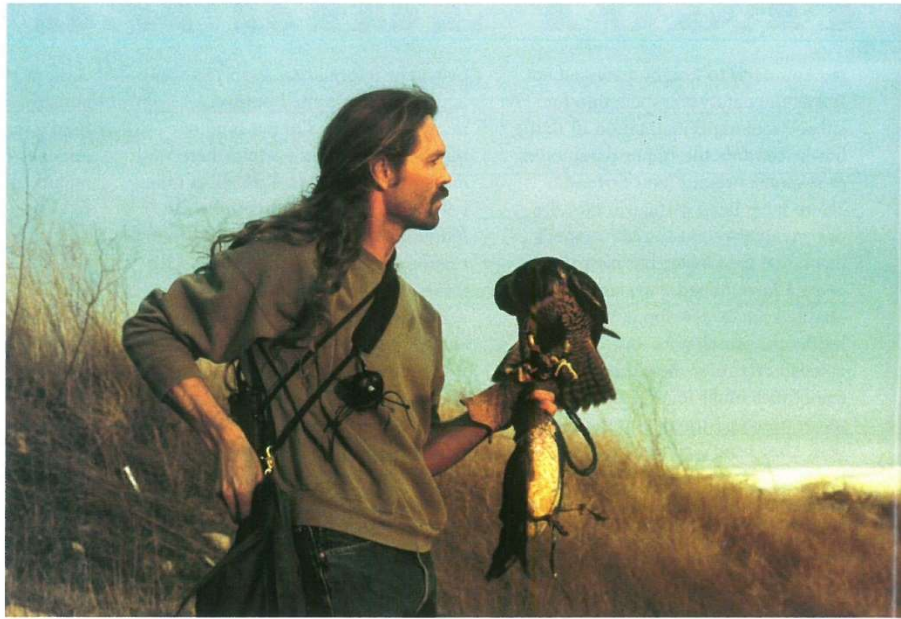
I tend to feed diverse food types because I catch a wide variety of ducks and other quarries as well. This complicates the regulation of food intake slightly. Obviously a teal breast has only a fraction the food

content as that of a mallard simply because a teal is so much smaller than a mallard. Fortunately, the falconer can use crop size as a means of estimating the quantity of food that is being ingested. Feeding a hawk a full crop will result in a weight increase, fasting will cause a decrease and any size crop between these extremes will likewise have a predictable effect on the hawk's weight. Though this method of gauging the hawk's intake is less than exact, I have found it to be satisfactory for most of my applications. By weighing the hawk before I go hawking and comparing the current weight with that of the previous day's weights and factoring in an assortment of other variables, I can project which direction I'd like to head for tomorrow's weight. The mental computation is in grams i.e., the weather has been warming, I think I may want to bring the hawk's weight down 15 grams (½oz), then I envision the size of the crop which will accomplish this reduction. In so doing, I have a mental image of what the hawk will be eating before I enter the field. However, the field performance will directly affect the amount of food the hawk is ultimately fed. To use the example previously stated, I enter the field expecting to feed a meal that will decrease the hawk's weight by 15 grams. After watching the hawk put in a stellar performance, I change my mind and opt to forgo the decrease in favour of maintaining the heavier weight in spite of the warmer weather. So it goes day after day.

If the falconer desires exacting weight control, weighing daily rations is very useful. Several years ago I was subcontracted to temporarily run a bird of prey show at a theme park. I was provided with 5 raptors, each of which performed in 5 shows a day, 7 days a week. There were no back-up birds so I needed to have consistent weights everyday. By far, the most technically demanding aspect of the job was managing the merlin. Lure flying a merlin 5 times

a day in the sweltering heat of a Houston Texas summer was a bit tricky. By weighing the merlin at least 2 or 3 times a day and weighing the last meal of the day, I was able to maintain a constant weight range within 1-2 grams everyday. If the falconer is feeding a stable diet of a singular prey species, he may achieve similar results by feeding exact known quantities. For example, through trial and error, a falconer may determine that his gamehawk will maintain a specific weight when fed a mallard leg, heart, and liver. Though somewhat consistent, the falconer will still have to weigh his hawk daily and

compensate for differences in temperature and the amount of physical activity the hawk enjoyed. These external and internal factors will influence just how the raptor will metabolise a particular meal. The particular kind of food fed to a hawk will also affect the metabolic rate, and various food items will contain different nutritional values. Any dieter will tell you that all foods are not created equal. To go one step farther, even a particular food item (i.e., duck, pigeon, rabbit, etc.) will contain a variety of digestible body parts providing a non-conformity of nutritional content. As a general rule, lighter coloured meats have a higher food value. Some of the older falconry literatures referred to darker meats as being 'heated', meaning nutritionally rich. Jackrabbit (hare), being a dark meat, will have a significantly higher food value than a cottontail rabbit, which is a light meat. All ducks are dark meated birds, hawks can readily gain weight on a diet of duck if the falconer doesn't exercise some control when feeding. Healthy ducks tend to have large reservoirs of fat distributed throughout their bodies. Much of this fat is adhered to the underside of



The Author with Omen (Gyr/Peregrine) and wood duck

Photo: Sydney

their skins. Large fat deposits are also found in the pelvic regions. Hungry gamehawks relish duck fat and when left to their own device, may over indulge. The digestive system of raptors tends to react unfavourably when too much fat is ingested, I've seen falcons vomit their crop contents. I had a bad experience once with an *anatum* peregrine I was flying. She'd killed a mallard and I wasn't going to be flying her the following day so I fed her more than usual and I foolishly allowed her too much duck skin, laden with fat. I had also fed her a duck leg with femur and tarsus broken. Sure enough, the falcon's system objected to the excessive amount of fat and she began to wretch. Unfortunately, the falcon's efforts were stymied; the duck leg was lodged in such a way as to preclude her from ejecting her crop contents. The *anatum* continued wretching, trying in vain to regurgitate. After two or three hours the situation deteriorated, the falcon became increasingly stressed and her crop began to sour. I took her to the U.C. Davis Veterinarian Hospital where they immediately performed a crop extraction, manually removing

the putrefying contents with a long pair of hemostats. Upon completion, the falcon was immediately relieved, and I learned a few lessons from the experience. I am more cautious about the amount of duck fat my hawks ingest. I do still occasionally feed duck legs (bones cleanly broken/no sharp splinters) because I have found that hawks that are subsisting on a diet of big ducks or other large gamebirds / mammals, are usually ingesting little bone material. I do avoid feeding much bone on big crops. (Duck necks provide an excellent source of calcium if the vertebra are smashed prior to feeding). Usually a raptor will vomit its crop contents when necessary of its own accord. Nonetheless, there are occasions (as mentioned above) when a manual extraction can mean the difference between life and death and I made a point of learning the technique for myself.

Various species of raptors have huge differences in their metabolisms. Even raptors of the same species are in some ways internally different one from another. I had a friend whose falcon developed an allergic reaction to merganser while I had a falcon

who reacted to wood duck and was always prone to motion sickness coming out of the moult. I've never been a proponent of hard washed meat (i.e., meat which has had all the nutritional value leached out through a prolonged period of soaking and or rinsing in cold water). In theory, a course of washed meat was fed to hawks over a period of time to induce weight loss while still keeping the raptor's digestive tract functioning. This regime is/was considered preferable to starvation. The old axiom, "Washed meat and stones maketh a hawk to fly but great casting and long fasting maketh her die" (*Latham's Falconry 1615 pg.23*) seems to have been universally accepted and probably has greater application in regards to passagers. Though I do use 'light meats', I have not found it necessary to resort to the distasteful (literally) washed meats with the eyass. I've found that the imprint need not be reduced in weight prior to free flight and can be flown initially at about hard pen weight. Gamehawks flown throughout the season should not require washed meat either. Post moult is where the intermewed eyass is most in need of weight reduction. My records indicate that my imprint falcons are reduced an average of approximately 40-50 grams (1½-1¾ oz) below moult weight before resuming flying. This reduction is easily accomplished over the course of about ten days by simply cutting back slightly on daily rations. As a means of ensemaming (purging excess internal fat) some falconers administer 'rangle' (small smooth stones). It is understood that some raptors intentionally ingest rangle. I've made it a point to have rangle available to them towards the end of the moult, and I've noticed a couple of falcons take advantage of the stones then cast them the next day along with the other indigestibles that comprise the casting. I am however, adverse to forcing rangle down a raptors throat, as was Ronald Stevens (*Observations On Modern Falconry*). I suppose one could cleverly hide rangle in meat in order to get the hawk to swallow them without having to 'man handle'

the creature, but I am perfectly content to let the hawk decide for herself.

As stated, I am a firm believer in the scale, nonetheless I believe the use of a scale has in some ways allowed the modern falconer to be too lax, to rely too heavily on a fixed number which can and should fluctuate in harmony with changing conditions. The scale is but one of several indicators and if used solely, in isolation of the other indicators, the falconer has 'missed the boat' in terms of weight management. In proper context, the weight of a hawk is not indicative of the hawk's condition; it is merely a reference number and virtually meaningless without corroborating evidence. Even same sex siblings can fly at different weights. It is the hawk's state of physical health, attitude, performance and weather that largely dictate the hawk's food requirements, changing weather patterns necessitate a change in the hawk's dietary needs also. A switch of terrain may require weight manipulation. If I plan to fly my falcons in tight, forested mountain conditions, I generally want an edge on their appetite. If I'm going to hunt sage grouse with hybrid tiercels, I again want an edge to enhance aggression on such large quarry, however these grouse are found in a notably colder region so this must be factored in as well. Being hungrier in a colder climate does not necessarily require reduction. In cold weather, raptors require additional fuel (food) to maintain body heat and weight. You've undoubtedly noticed a slackening in your appetite in warm weather and an increase when you're exposed to the cold. Thermo regulation is the process of maintaining body temperature. Cold blooded reptiles thermo-regulate externally, their body temperatures fluctuate depending on external factors. Solar radiation is a snake's primary means of elevating body temperature. Many a snake has met an untimely end while basking on roadways in the cool of the morning. They are drawn to the open road where they are exposed to the direct

rays of the sun and are additionally warmed by the heat retention of the asphalt. During the heat of the day reptiles retreat to cooler, shady areas to avoid overheating. Warm blooded animals thermo-regulate internally, maintaining a constant body temperature in spite of changing external temperatures, using metabolic processes. This is reminiscent of heating a home. In the winter, I burn wood in a wood stove to generate heat which warms my house. When the weather gets colder outside, my wood stove requires more fuel (wood) to maintain a constant indoor temperature. Similarly, raptors require additional fuel (food) in increasingly colder conditions to maintain status quo. Body fat plays a role here as well, and raptors in 'thicker' condition are better able to withstand frigid temperatures. In addition to weighing hawks, I manually check the keel in order to gauge musculature and fat content. Though obviously less precise than a scale, the keel will divulge an awful lot about the physical condition of the hawk. Raptors have the ability to rapidly metabolise fat along the keel and subtle or even dramatic differences may be felt from one day to the next. Thousands of years ago this tactile method was likely the primary means of detecting fat content by falconry's first practitioners. By feeling along the ridge of the keel and along the edges where the pectoral muscles connect, the falconer can get a sense of what his gamehawk feels like in a variety of physical states. This also makes it possible for the falconer to reach in and feel any type of raptor with which he has experience and assesses the raptors condition with a measure of accuracy. This is very useful and comes in handy in many ways. One such way is in working with a fresh passager. The generally accepted formula for weight reduction in passage birds is approximately 10% from trap weight. However, if the falconer is incapable of determining the hawk's physical condition at the time of capture he is disadvantaged to say the least. For all he knows, this hawk may have

come to his trap in or near a state of starvation. It is not uncommon for passagers to develop some form of sickness or another shortly after capture. It would be reasonable to assume that many hawks are infected prior to capture. I once trapped a passage tiercel redtail with an acute case of pox, which in spite of my efforts proved fatal. I think it is also reasonable to speculate that a lot of the hawks that become symptomatic shortly after capture were not ill before capture. They may have been thin, perhaps on the edge of good health when they blundered into the trapper's net. A falconer ignorant of the 'tactile' method of determining body fat is screwed. It will do no good to know that 'so and so's' bird was trapped at 'such and such' weight. These weights are meaningless in terms of this particular hawk's health. There is simply far too much variation amongst individuals of a species to rely on a categorically designated weight criteria. To reduce a thin hawk's weight is tantamount to intentionally compromising its health, for then it is automatically predisposed to contract disease from exposure to past, present and future contaminants. A further complication to the passager's health is the effects of stress after capture. It is well known that organisms under high amounts of stress tend to be immuno deficient. This combined with excessive weight loss has undoubtedly been the deadly cocktail served to more than a few fresh passagers. At the other end of the spectrum, a hawk trapped in a state of high condition may require a reduction of greater than 10% to generate initial response. It would certainly ease ones anxiety when having to surpass the 10% mark, if by tactile examination we had an assurance that the hawk was still metabolizing body fat. As a sponsor, I am able to ascertain the physical condition of the hawk's being trained by my apprentices. The typical apprentice often stumbles hard while attempting to enter his passager. Keel assessment helps me critique my apprentices' weight management

while in the field and allows me to make intelligent suggestions.

I intentionally fly my eyasses on the heavy side. In most instances an accomplished gamehawk need not be flown sharp (thin) to ensure good effort and continued productivity in the field. Properly managed gamehawks thrive on hawking, and once in the 'groove' need not be coerced with excessive hunger. I believe this is key and one of the reasons I have had great success intermingling gamehawks year after year. A hawk flown on the light side may not only be less vigorous at times but may also be more prone to accident out in the field. I can imagine many scenarios, in which an overwhelming appetite may override the hawk's better judgement or common sense, increasing the odds of injury. What's more, gamehawks injured while in low condition are less resilient to any traumatic injury.

Behavioral clues obviously play a big role in the scheme of weight management. Both in and out of the field, the hawk's demeanor, posture, and actions continually transmit information as to the physical and mental state of the hawk. Proper interpretation of these visual and sometimes audible clues is imperative. Thoughtful, consistent observation permits the falconer to ascribe meaning to the subtle as well as obvious mannerisms. This is not an exact science. Individual raptors will exhibit different levels of tolerance, enthusiasm, excitement, aggression, anger, etc. this is further compounded by the fact that different species of raptors and age classifications influence mannerisms. Generally, imprints top the list as being most demonstrative – usually when an imprint is hungry you'll know it. Next in line would be the non-imprint eyass followed by the passage and then presumable the haggard. Sometimes the raptor's behavior is blatantly obvious. Other times the behaviors are more convoluted and difficult to decipher. Occasionally the hawk will send 'false' signals, note the eyasse's behavior when being fed at home. Even at the upper end of her

response weight she acts ravenous at home. Sometimes I get fooled into feeding the hawk more than I had intended, then I pay the price the following day when I can't beg the not so hungry hawk off of the pole. If this same hawk, at an identical weight were to be flown and fed in the field instead of at home, her mannerisms would be significantly different, a lot mellower. I find it easier to manage the weight of a hawk being flown daily as opposed to one that is flown sporadically. The activity that takes place in the field is very telling as to the hawk's true desire to eat (appetite), particularly so when the raptor is an experienced gamehawk whom understands its predatory role. When my gamehawks fail to take quarry (under favourable circumstances) I usually feed little or nothing (another benefit of flying hawks thick). The following day I marvel at the ease and expertise by which they then take quarry. This is very noticeable in my Harris', when he's not quite motivated, he will consistently just miss jack after jack – giving the impression that they are difficult for him to catch. On the other hand, when the hawk is properly motivated, he appears to be magnetised to jacks and often takes the first one seen, giving the impression that he can easily catch them at 'will'.

When my falcons are hungrier they bate more frequently which can ultimately lead to leg and foot problems and feather damage as well. Flying falcons 'thick' tends to mellow them out on the block. This is also a good reason to fly the gamehawk in the morning if possible and I've found it beneficial to feed moulting hawks in the morning as well. I like to fly falcons six days a week, on the sixth day I feed heavier than usual. On the seventh day I rest and feed the falcons minimally, perhaps a duck wing as a tiring. I don't really like to fast falcons and have found that falcons are more relaxed after having dismantled the tiring than they are when not given anything. My Harris', with his much slower metabolism is usually fasted once a week with no signs of ill

effect. After a day of rest, my gamehawks are ready physically and psychologically to go back at it hard, and so am I.

Many falconers talk about a quite specific, static flying weight and strive to maintain this 'magic' number throughout the season. I have never felt comfortable relying on this philosophy. Raptors are not machinery, they are living organisms, subject to external and internal elements that continually affect their minds and bodies. How can we possibly assign a 'perfect' weight in August or September and expect that weight to remain static in spite of changing weather conditions with the onset of winter, especially in areas, which experience dramatic changes in temperature? Clearly to do so is to be very short sighted. I periodically raise the weight of my gamehawks until the performance level begins to decline, then methodically reduce the weight until the desired field performance re-emerges. This cycling continues off and on throughout the season, shaping the flying weight

parameters in ever changing conditions, always striving to keep the gamehawk in a groove where field performance is powerful and predictable! In some ways a finely tuned gamehawk can be correlated to a professional athlete at the top of his game. Physical conditioning is paramount, confidence is key. Weight control is a wonderful tool but it is not a panacea to solve all that ails. Occasionally weight reduction is precisely what is necessary to achieve a certain goal or perhaps to make a specific point. However in some instances weight reduction will

only exacerbate existing problems. This is especially so, when working with falcons and the chained behavior of waiting on, or when any raptor doesn't have the capacity to grasp the lesson in the fashion that it is being presented. Certainly hawks can be starved into submission and made to jump through our proverbial hoops, but I am not convinced that starvation is synonymous with training. A hawk with a healthy appetite and a hawk experiencing a condition of starvation are two separate beasts. When we find it necessary to reduce the hawk's weight below that which we consider

diminishes the hawk begins to drastically accelerate the rate of weight loss. The falconer must exercise extreme caution at this point, raptors that are allowed to slip past this level will begin metabolising muscle mass which is entirely counter productive, and it becomes increasingly difficult to build the hawk back up. Through experience and observation a falconer can learn to develop a hawk into a powerful athletic killing predator without resorting to harsh food deprivation. Consistent gamehawks are habituated to successfully capture quarry, once



Shaman, pheasant and pointer.

Photo: Joe Roy III

to be the 'norm' (such as when entering to large quarry) we look forward to the hawk making the transition so that the weight may be put back on. When reducing a hawk's weight it is important to remember that the hawk's fat content will affect the rate of weight loss. Raptors with higher fat content require less food to maintain body weight. While monitoring the weight loss of a fat hawk you will notice the hawk losing weight at a fairly steady rate as it augments its fuel (food) by metabolising internal fat reserves. Eventually as this fat supply

habituated, hunger is less important and weight is incrementally increased. Falconers that are interested in maximum performance will want to fly a hawk with a thick breast in as high condition as possible. These are the birds that have the ambition and stamina to launch and sustain strenuous attacks. Many years ago I flew a tiercel kestrel that would kill and cache birds, eating only the brain. This behavior is occasionally seen amongst trained merlins as well. Obviously these falcons are cooperating and killing in a very

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high condition, their motivation is something beyond hunger. Certainly some raptors have the capacity to hunt and kill without much of an appetite and in excess of what is required to maintain body weight. I recently had the good fortune to locate a Cooper's hawk (*accipiter cooperi*) nest one quarter of a mile from my house. The nest is 100 feet from the road, down the side of a hill, eye level and visible from the road. This convenient location has made observation easy and informative. I was impressed with the hen's dedication to the eggs and then the developing eyass, her vigilance was inspiring. Meanwhile, I found the tiercel's dedication equally impressive. He took on the role of provider, hunting to support himself, the hen and their four progeny. Like some phantom, the tiercel slipped through the forest killing bird after bird. If, as falconers, we could tap into this mentality and capacity with our gamehawks, we would be flying hawks at their peak of performance and weight management would become unnecessary. A few years ago, I had an enlightening experience while hawking pheasants with my gyr/peregrine hybrid, "Shaman". A rooster busted wild and Shaman took up chase, tailing him out of the field and over a hill and an interstate highway. The dog and I paused, waiting for the falcon to return, but he did not. I went to my truck, flipped on the 'box' and got no signal from Shaman's transmitter. I drove to an elevated overpass but still picked up no signal, only dead air. I crossed to the opposite side of the highway, checking the general area where the two should have been and still no sign or signal. I spent the next hour driving, searching, and worrying, never once picking up a signal. Since it would have been out of character for Shaman to leave the vicinity, I decided to do a more thorough investigation on foot, near the area where the pair should have crossed the highway. Four hundred yards from my truck, I began to pick up a faint signal and to my horror it appeared to be emanating from the highway itself. I had a sinking

feeling, expecting to find Shaman's remains strewn across the asphalt. As I got closer to the highway, the signal strength continued to increase, seeming to confirm my fears and I braced myself for the inevitable. Suddenly I spotted Shaman, not in the roadway, but above the roadway. He was 400 feet up and getting higher by the second, ascending effortlessly on thermal air rising off the blacktop. I couldn't help but notice the enormous size of his crop; Shaman had obviously killed the pheasant and gorged to his satisfaction. I tried to lure him down but Shaman just kept circling higher and higher. The prospects of a fully cropped falcon riding a full on thermal early in the day had me feeling more than a little uneasy. I dashed for the truck, hoping I could coerce Shaman down with a live lure before he disappeared into the sky. To my surprise, Shaman tucked his wings, slanted across the sky and arrived at the truck before me. He wasn't looking for a handout; he'd had more than his fill with the pheasant he'd killed. Shaman was ready to go home. To those whom have never experienced this type of relationship with a falcon, I may sound a bit anthropomorphic, but I can assure you that the man/falcon bond can transcend the bounds of hunger. The fact that Shaman, an extremely experienced and efficient predator prefers to come home with me for reasons other than need, was complimentary and educational. I couldn't help but reflect upon a past conversation I'd had with the president of a wildlife rehabilitation organisation. She was of the typical anti-falconry variety and though she obviously knew nothing about falconry she felt compelled to inform me that my birds "never really fly free". You know what I say? Bullshit!

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How much do you care about falconry?

Perhaps you are not even a falconer, but have picked up this magazine out of curiosity, in which case one hopes it has given you passing pleasure. But if you are a falconer, then I hazard there is more at stake. For falconry enters your soul, becomes a part of your very being. Year on year you crave the start of the season, watch the days fade into autumn with a hunger others reserve for soccer or a holiday. For the true falconer the passion never lessens. Others – hawk friends, keen to prove something in too short a time with every species under the sun, and many that are not – will soon tire and move to other pastimes. They are the ten year falconers. I wish them well but it is not quite the same.

Now imagine its loss. Imagine the confiscation of your hawk or falcon by an interfering legislature. Consider your feelings when your dog is impounded for doing the very job you spent patient years training it for. And your ferret, lost to a busybody welfare organisation for re-housing as a domestic pet. You would fight to prevent it. You might even consider ignoring the laws ranged against you. After all such a law would be “an ass”. In which case, spare a thought for the foxhunters.

There are 20,000 hounds of various disciplines in the UK. None will be re-homed following a ban; as pack animals, they will be shot. Many horses will have to be sold, for

Why the falconers need the foxhunters

by Nicholas Kester



Photo: Louise Bruce

their owners desire no other equestrian sport. (It is like asking a falconer to take up flying displays or a shooter, clay pigeons.) Some 800 people will instantly lose their jobs, a further 7,000 will have their income threatened.

“Ah, but” I hear you say. “Foxhunting is not falconry. Why should I care about foxhunting?”

Yet there are close parallels for us falconers. Closer than you think.

For the callous and the cynical, consider what a perfect buffer hunting with hounds provides between those in opposition and other field sports. As long as there are hound sports, say some, falconry will never be in the front line. But

for the honest and farsighted, foxhunting, and by association stag hunting, beagling, mink hunting and coursing, are in the same context as falconry. For a start there are no mechanical devices – no guns, rods, nets. The means to the end is another animal – a natural predator that acts within its evolutionary remit. Consider the hyenas and wild dogs of the African plains or the wolves of Northern Europe and the USA. Do they not pursue their quarry in packs, overpowering the weak and the slow, naturally selecting their quarry species? Like falconry, hunting is a balance between animal and animal. We may be the ‘deus ex machina’, the interfering agent. But the effort is in the creature – hunter and hunted. Our duty is to manage and spectate the chase, not to execute it. We utilise no artificial weapon. Urban man sits in front of his evening television and delights at such activities of ‘nature’.

Confront him with the reality of hunting in the winter countryside outside his well-lit streets and convenience stores, and he is appalled. Whilst we have exorcised the great taboos such as sex, illness, overt wealth, etc., death remains solidly spectral to many. Relatives die in homes or hospitals, meat appears shrink-wrapped on our supermarket shelves, road accidents are fleetingly glimpsed through the windshield of a car. We all know that the television is either filled with actors who count to ten or newsreels from so far away as to be impersonal. We have lost our understanding of the cycle of life so acutely enacted by the farmer or the hunter.

Yet falconers remain complacent about the impact of a first ever (legislated) field sports ban in the UK. Consider what our failure to join the hunters on the ramparts will mean. Few such bans ever get overturned. Liberal views swing aggressively back to constraint in a few brief generations. What our parents fought and died over in the 40s was liberty. A generation on, we, the children of those times, spent the 60s overcoming much that stifled thought and deed – abortion, divorce, capital punishment, equality for women, racial prejudice, homosexuality, censorship and more. Add another thirty years and today we have a false freedom. Wrapped up by the ‘nanny state’ telling us what we may or may not think and do. We are suffocated by the cotton wool of political correctness, that insists what is unacceptable to the majority must be imposed upon a minority. We are being moulded, conformed against our will. We should resist it with a vengeance whatever our political colour.

Devolution in the UK means divide and rule. In Scotland, a ban on hunting with dogs would have and may yet restrict the use of dogs in falconry: the Watson Bill, as drafted, prosecutes the owner of any dog that chases a mammal. Sure, there are proposed amendments providing for falconry and shooting, but there is no guarantee that these will ever be presented let alone adopted. And once enacted it is far easier at some future date to slide out a pro-falconry amendment than redraft an entirely new act. In England and Wales, a similar bill is proposed this November. Legislation that has been promised government support for the very first time. Will falconry become the subject of ‘horse trading’ as it did in Denmark, where it was sacrificed to satisfy the Green lobby for the continuance of game shooting? Will it be the subject of amendments that may or may not benefit us? Shall we have to refer to the International Convention on Human Rights to protect our freedom to hunt?

The big question is this. Will those against hunting (in its widest

sense) take up bicycling or stamp collecting once foxhunting is banned? Of course not. Examine a report in a British national paper as the Campaign Against Angling started their seasonal activities against coarse fishing (the sport of catching the largely inedible species unlike the game fishing of salmon and trout). “We are today” say the anti-fishing brigade, “at a point where the anti-foxhunters were fifty years ago.” And people are not treating them to the laughter reserved for the harmless eccentric. With the money that is poured into the animal rights lobby today, those fifty years could quickly be compressed into five. So what is the next soft target? Is it ferreting,

When there is a front line attack on falconry, how quickly can we react?

falconry, game shooting, fishing? Despite being confronted with this question in numerous television debates, most recently put by the field sports supporting editor of the London Evening Standard, Max Hastings, no satisfactory answer has ever been given by those in opposition. Far too dangerous politically. After all there are four million fisherman in the UK who spend their days dragging their quarry round with a hook in its mouth, only to remove it from its liquid atmosphere, weigh it, and then return it to be hunted again. So is there another minority to be picked on? Another small group whose loss will not cause waves but which satisfies a broader political agenda? How long will it take and can you afford to sit there and do nothing?

International falconers consider that we in the UK have some of the best falconry in the world. We have retained many of the original liberties that others have lost. Falconry is of a higher quality than it has ever been. Forget the Middle Ages or the inter-war years, this is its golden age. Practised by all, regardless of background, class or

finance, we hunt the broadest range of quarry with the some of the best hawks and falcons available. We have pioneered captive breeding, wild conservation, raptor medicine, telemetry and much, much more. Many people come here each year just to enjoy the unique experience of grouse hawking on heather moorland.

Falconry clubs flourish, field meets are enjoyed by all. Every four years the British Falconers’ Club hosts an international field meet in Lincolnshire for its members. Last time around, there were some 124 falconers with hawks and an equal number of guests. For four days they were the invited guests of some 60 landowners and enjoyed sport over 250,000 acres of land. By the next such meet in 2001, numbers will be capped to prevent the event becoming a victim of its own success. In such a crowded island, this is not only a feat of logistics but evidence of the popularity and the standard of the sport. Long may it continue.

So when there is a front line attack on falconry, how quickly can we react?

When the government announced its plans for the abolition of foxhunting, its supporters put 3,000 people outside the Houses of Parliament in 24 hours. Could we muster a commensurate proportion of falconers in similar timescales? I would hope so, and more. Can we get them all out to support foxhunting? We shall see. For the Countryside Alliance, which represents all field sports in the UK, intends to put 500,000 onto the streets very soon. And 3,000 of them had better be falconers.

When you hear on television or read in the paper, that the foxhunters need your support in both time and money, give it freely and without question. For you could be next. No. You will be next. ■

PRACTICAL RAPTOR NUTRITION

by Neil A Forbes
BVet Med Dip

INTRODUCTION

The risks associated with certain foods should be appreciated and assessed. Supplements, probiotics, vitamins and minerals may be necessary at times. Infectious diseases are less likely if mammalian rather than avian food is used as few pathogens cross between classes. A full discussion of the nutritional requirements of the orders 'falconiformes' and 'strigiformes' is beyond the scope of this article. As a basic principle, it is important to remember that each raptor species has evolved over millennia to fill a very specific ecological niche. In the absence of detailed nutritional data, the dietary needs of any individual species will be met most fully by feeding a diet closely approximating to that which would be taken in the wild under ideal conditions, although one should not lose sight of the fact that a natural diet is for a wild bird, by definition our captive birds have a different life style and hence have different nutritional requirements. The maintenance energy requirement of raptors is 110Kcal/kg0.75/day.¹ Thus the daily intake of a 100g bird is 25% of its bodyweight, a 700g bird 15% of its bodyweight, 1200g bird 10.7% of bodyweight, 4000g 6.25% of bodyweight, 7000g bird 3.5% of bodyweight.² Larger birds eat more food but require a significantly smaller percentage of their body mass as daily food intake.

The consumption of a prey animal by a raptor involves the bird eating casting (fur and feather), muscle, bone, viscera and the prey's gut content. In supplying food to captive birds, all these elements should be considered. Any alteration to the bird's diet, even from one prey species to another, in both captivity or free living individuals, can result in a change to the relative proportions of these materials consumed.

FEEDING BIRDS OF PREY IN CAPTIVITY

Foods commonly available for feeding to captive raptors include day-old chick (i.e. hatchery waste males), "grown-ons" (chickens or turkeys of several weeks old), quail, rabbit, various rodents, beef, lamb and horsemeat. Over 50% of UK raptor keepers rely solely on feeding day old chicks.³ This is an unsatisfactory diet due to lack of a balanced diet, although recent analytical tests have demonstrated that chicks are in fact a much better central part to a diet, than had been previously considered⁴. If the day-old-chick is fed with yolk included, the fat content is high, but when the yolk sac is removed there is a significant deleterious reduction in the Ca:P (*Calcium:Phosphorous*) ratio as well as the levels of vitamin A and E4. Whilst in the past one might have advised only feeding yolk sac once a week, the new recommendation is to feed yolk five times a week. The feeding of muscle (e.g. shin of beef) as a major part of the diet is

unsatisfactory without supplementation. Birds flying on public display, are often fed beef as the public may object to seeing fluffy chicks or mice fed. This can lead to calcium deficiency even in adult birds with central nervous signs or muscle cramps.⁴ There are marked inter-species differences in nutritional requirement. European kestrels (*Falco tinnunculus*) can breed successfully for several generations on an exclusive day-old-chick diet.⁵ In contrast, merlins (*Falco columbarius*) fed on the same diet will not thrive. Free living merlins consume an insect based diet and for merlins a high fat diet may predispose to 'Fatty Liver Kidney Syndrome of Merlins'.⁵ The diet of free living Secretary birds (*Sagittarius serpentarius*) is predominantly snakes, which are lower in energy and higher in Ca:P ratio than most commercial raptor diets. Young fast growing Secretary birds fed on a standard raptor diets may suffer a Ca:P:D3 imbalance with resultant metabolic bone disease and leg deviations. The essential point is to feed a varied diet, with supplements if appropriate, which as closely approximates to the natural wild diet as possible.

Source and storage of food: Irrespective of the food type, it is essential to be certain of the quality, source, method of killing, freezing and storage of the food. Food should be purchased from reputable sources, where the wholesomeness of the food can be assured. The method of killing should be ascertained and

it should be certain that no toxic or noxious substances could be present in the food. Animals or birds fed to raptors must not have been on any form of medication, or medicated food prior to their death. Withdrawal times will depend on agents involved. The feeding of day-old-chicks hatched from antibiotic treated turkey eggs has led to infertility in the past. Once killed day-old-chicks should be laid out on shelves and blast frozen, prior to packing. If chicks are boxed prior to freezing, the chicks in the middle of the box will take an excessive time to freeze, leading to proliferation of surface bacterial contaminants, toxin or spore formation. When frozen day-old-chicks are purchased and transported, care must be taken to prevent thawing and subsequent re-freezing. Food should not be kept stored (frozen) for more than three months. The potential risks of zoonotic infections should always be considered when handling raptors or their food.

CONTAMINATION OF FOODS

Microbiological: any wild source of food (e.g. pigeon, game, road traffic kills) must be considered potentially contaminated. That animal failed the 'fitness for life test' and we do not know why. Such birds may be carrying organisms such as *Mycobacteria*, *Salmonella*, *Campylobacter*, *E. coli*, *Trichomonas*, *Paramyxovirus*, *Adenovirus*, *Falcon Herpesvirus*, *Rotavirus* or alternatively may have been poisoned (e.g. alphachloralose, mercury, lead, mevinphos). Any wild sourced food should be in good body condition, have been caught and killed by physical means, and on examination the carcass should look in all respects to be thoroughly wholesome and free of disease. The abdomen should be opened and the surface of the liver examined. If lesions are detected the whole carcass must be rejected. Many infectious diseases (e.g. avian tuberculosis or viral disease) will cause gross liver lesions. Wild sourced foods may also be infested with internal (*Caryospora*, *Capillaria*, *Syngamus* etc.) or external parasites. Ectoparasites may act as vectors for

Haematozoa and other blood-borne infections. Viral diseases have been encountered (e.g. *Adenovirus*, *Rotavirus*) where healthy commercially sourced poultry (day-old-chicks, turkey poults, quail), had been fed to healthy raptors which have then succumbed to disease.^{6,7} Apathogenic poultry viruses (of no commercial importance) may be pathogenic to raptors. *Adenoviruses* are commonly pathogenic to only one species (e.g. Mauritius kestrels (*Falco punctatus*).^{6,7} Viruses which are apathogenic in a food species, especially those which may only be pathogenic to one target species (e.g. *Adenovirus*), cannot be predicted. The only precaution is to avoid feeding avian derived food. Pigeons form a particular risk to raptors due to their high sub-clinical incidence of *Trichomonas* spp. (frounce/canker). Discarding the head, crop and oesophagus is insufficient as breast muscle and liver are often contaminated. Stressed, senile, juvenile or diseased raptors are most susceptible. Pigeon to be fed to raptors should be frozen completely and thawed prior to feeding. Other diseases commonly carried by pigeons include *Falcon Herpes Virus*, *Owl Herpes Virus*, *Newcastle Disease Virus*, *Pigeon Paramyxovirus*, *Salmonellosis*, *Avian Tuberculosis* and *Chlamydiosis*. Many of these are not eliminated by freezing. Raptors may consume parasite intermediate hosts. In both free living and captive raptors the consumption of Earthworms (e.g. *Eisenia foetidus* and *Allolobophora caliginosus*) and Arthropods (slugs, snails) which can act as intermediate, paratenic or transport hosts for parasites can lead to infestations e.g. *Syngamus* spp (gape or lung worm) and *Capillaria* spp.

Toxic: Many falconers feed ferreted, rifled or shotgun shot foods (especially rabbit and pigeon). Shotgun killed quarry should never be fed. Rifle bullets frequently fragment on impact, so even head rifle shot food should be discarded. Even newer 'so called' lead free bullets may in fact still contain lead (all be it coated on the outside by an alloy) or other toxic minerals e.g. zinc. Ferreted rabbits may contain lead pellets from a previous non-fatal



Northern Goshawk (*Accipiter gentilis*) suffering from lead poisoning

shooting incident. A single piece of lead shot is often sufficient to cause a bird's death. Lead ingestion from the consumption of fallen shooters quarry is a major cause of mortality especially in wild eagles.⁸ Road traffic casualties may have been shot prior to vehicular collision. Keepers should be aware of the clinical signs of lead poisoning (see plate 1) (weakness of legs and wings, inability to stand, often grasping the feet each in the other, incoordination, poor appetite, green faeces, and weight loss).

Barbiturate poisoning has occurred in both wild and captive raptors after birds have been fed the carcasses of animals euthanased with pentobarbitone. Other possible toxic contaminants include alphachloralose, mercury, mevinphos and other pesticides.

COMMON DEFICIENCIES AND EXCESSES

Hypocalcaemia (lack of calcium), Ca:P:D3 imbalance, rickets and metabolic bone disease (MBD) (different names for the same condition) is the most important nutritional deficiency of raptors. Birds may present with slight or severe bowing of the legs (see plate 2), tibial head dyschondroplasia, longitudinal rotation of the

tibiotarsus, major multiple folding fractures of the skeleton and even hypocalcaemic fits. MBD is most likely to occur in fast growing larger species.

Breeders should be advised not to feed such species *ad libitum*, but rather to restrain the potential growth rate. 'Angel wing' or 'slipped wing' (an outward rotation of the proximal metacarpal) has been experienced by the author in several fast growing larger raptors. This is readily controlled if diagnosed early by bandaging the primaries against the body, Ca, D3 supplementation and a reduction of the growth rate. Dietary composition is more important in chicks than in adults. The diet must comprise whole carcasses, and not simply muscle (i.e. meat). The author has investigated calcium deficiencies in free living golden eagle (*Aquila chrysaetos*) and European buzzard (*Buteo buteo*). In the former case the young were parent-reared in an area with little ground game. The birds were feeding predominantly on fallen sheep carcasses. However, they were only consuming meat from the carcasses (as sheep bones were too large for young chicks to consume). The buzzards were rearing young in an area with a significant rabbit die-off due to myxomatosis. Food was plentiful and rabbit bones were too large for young buzzard chicks. A similar situation can arise when a



Radiograph of the ricketic legs of a young Harris hawk (*Parabuteo unicinctus*)

breeder feeds a whole carcass diet of rabbit or pigeon for the parent rearing of young Harris' hawks (*Parabuteo unicinctus*). Either the young are unable to consume the larger bones or the parents feed what is easiest. The result is severe MBD. It is a question of what food is available to the birds rather than what is consumed. Calcium deficiency may also be encountered in neonates produced by a hen with significant renal disease, or from one which has laid an excessive number of eggs (usually due to egg pulling or multiple clutching). Any multiple clutching hen should have her diet supplemented with Ca, D3 as soon as the first clutch has been completed. Calcium deficiency due to inadequate D3 levels is less common in raptors in comparison with parrots in view of the contrast in typical husbandry.

Vitamin E / Selenium deficiency is seen most commonly in chicks fed on high fat food which has been stored excessively. The condition presents as acute onset opisthotonus of neonates (commonly termed 'star gazing'). Treatment is by injections of vitamin E and selenium and dietary supplementation.

Vitamin B2 (Riboflavin) deficiency can also be seen in birds fed on excessively stored food or where a mixed diet has not been fed. Deficiency presents as an inward curling of the toes, typically seen within the first 14 days of life. Clinical signs respond rapidly to parenteral or oral B2 supplementation.

Secondary Thiamine deficiency occurs when thiaminase containing fish are fed to fish eating species. Thiamine responsive fits are also seen in certain breed lines of captive Harris' hawks. These cases are not related to a dietary deficiency, although supplementation does control clinical signs.⁹

FEEDING METHODS AND HUSBANDRY

Aviary birds are often fed excessively. Excess food may not only lead to fat build up in the, hardening of the arteries and other health problems, but also increases the risk of vermin infestation. If

birds do not come down to feed as soon as the food is provided, they are either ill or they do not need as much. When feeding aviary birds, food is best supplied in a drawer system, rather than a chute. If excess food is given (if not cached) it can be removed rather than decomposing on the aviary floor. The food drawer should be positioned to avoid direct sunlight or access by vermin. Atherosclerosis may occur in over-fed, poorly exercised birds, especially if on a high fat diet. Old spent laying quail, mature fat laboratory rats/mice are a particular risk. The condition is commonest in older breeding female birds, in view of the increased mobilisation of fats, during egg laying. A heritable tendency toward the condition has been demonstrated in quail.⁹ There is usually no indication that the bird is ill; it is simply found dead in the aviary, or dies during some other stressful event (handling, anaesthesia). Serum cholesterol screening maybe of value in predicting which birds are at risk. Nutritionally induced atherosclerotic lesions in quail have been shown to regress after dietary correction,¹¹ or with exercise. If possible at the end of the breeding season all breeding birds should be taken out and flown free even if it is only for a few weeks

Water: Although raptors typically acquire their daily water intake via their food, if the weather is hot, they are unwell or laying, or if they are anorectic, their dietary water intake may be inadequate. This can be particularly relevant during training, when a bird may be kept on the fist until it will eat from the glove. In this way some birds can go up to three days without eating, leading to dehydration and kidney disease. Raptors should have access to fresh water at all times. Water containers must be easily disinfected. Water should be changed regularly, especially in hot weather, as *Pseudomonas* sp. (a very dangerous bacteria) often grow in warm water infecting the bird and leading to severe and often fatal disease. In hot weather, it may be necessary to sanitise the drinking water with a diluted disinfectant (e.g. chlorhexidine or Virkon) to control

this problem. Water baths should be carefully designed to minimise the possibility of birds drowning. In the UK, during the months of October to April, birds should be prevented from bathing in the afternoon, as birds still wet at night are more prone to 'wing tip oedema and dry gangrene syndrome'. This applies particularly to first-year birds of susceptible (warm climate) species tethered within 18 inches of the ground overnight.

SUPPLEMENTS

There is a large range of supplements available for addition to birds' diets. If the birds are fed a good diet, supplements will only be required at times of additional stress e.g. training, breeding or moulting. Supplements should not be used as an alternative to a well-balanced diet. A good diet should be varied, and differs depending on the size, type and current activity of the bird being fed. Day-old-chicks (with most yolk removed) may be offered as up to 70% of the weekly intake as long as it is balanced with another food to give a balanced diet with variety. Whole carcasses should be fed; never remove meat from the carcass and feed that alone. In temporary situations of poor availability, it may be necessary to rely on chick or beef, and at these times, it is sensible to use a supplement. Supplements should have been designed with specific regard to raptor nutrition, and the manufacturers' recommended dosages should be followed. Over dosage is not uncommon and can be extremely dangerous. The commonest problem is vitamin D toxicity, which leads to calcification of the kidney and subsequent renal failure.

OBSTRUCTIONS

Casting: is the indigestible parts of the carcass, which are consumed and then regurgitated as a pellet by the raptor. This includes hair, feathers and in some cases (e.g. Owls) skeletal elements. Casting should not be given to any chicks under 12 days of age, and for some species (e.g. the merlin) not until 20 days of age. This applies in particular to 'hard' casting such as

rodent fur, whilst chick down is considerably easier to deal with. Young chicks are often unable to cast such material, leading to a proventricular obstruction and death. Clinically, a firm swelling may be palpable caudal to the edge of the sternum. Treatment using gut muscle stimulating drugs, oral and parenteral fluid therapy, antibiotics and cautious use of oral liquid paraffin is often effective. If this is unsuccessful, surgery could be attempted, but success rates of gut surgery on neonates are often poor. Breeding females with developing ovarian follicles and a swollen active oviduct may have difficulties with excessive casting due to lack of abdominal space. A normal raptor will produce a casting 8 - 16 hours after a meal. Birds cannot be fed again until they have cast. If this does occur, a small intestine obstruction can arise.

Inadvertent ingestion of indigestible matter: On occasions organic material may be consumed with food (e.g. peat, wood shavings or vegetable material) from nest ledges, which the bird is unable to cast. In such cases a gut blockage will occur. Harris' hawks are the most intelligent of the common captive raptor species. They will at times 'play' with materials in their surroundings and can ingest various foreign bodies. One example is that they can learn to untie the knot tethering their leash to the perch. The leash can be pulled free of the swivel and the bird can then swallow the leash which may be later cast or it may necessitate an ingluviotomy. Large foreign bodies may be safely left 24 hours on the expectation that they will be naturally cast by the bird. Owls, both in captivity and in the wild, occasionally eat very long twigs (on occasions 6 - 8 inches long). The bird may appear inappetent, uncomfortable and miserable. Sometimes the twig is 'cast', but on other occasions, it may perforate the crop or proventriculus with a grave prognosis. Endoscopic or surgical removal may be necessary. Another form of obstruction seen especially in the larger owls is the ingestion of pea gravel. The bird is presented with a

history of having a good weight but marked loss of body condition. Gastric distension by the gravel reduces the bird's appetite and little or no food is ingested. The condition is often advanced by the time of presentation.

Ingestion of over-size food items: the feeding of rabbit or hare carcasses with intact femurs can cause problems. The bone may pass directly into the proventriculus and be digested. However, in larger raptors the bone may rotate into a transverse position in the crop or stomach. The bone may form an obstruction in the crop or perforate the gut leading to a terminal peritonitis. If the bone is broken (preferably without sharp ends) before feeding, the problem does not arise. A similar situation can develop when pheasant or poultry necks are fed whole. The neck usually passes down straight, but occasionally will double over in the crop or distal oesophagus becoming lodged. On occasions, birds will eat uncommon prey items. The most unusual obstruction encountered by the author was a female redtailed Hawk (*Buteo jamaicensis*) which had caught and eaten a hedgehog (*Erinaceus europaeus*). Initially the bird was fine, but after 18 hours with no casting, she was presented for examination. Barium contrast radiography confirmed the presence of multiple spines and fur lodged in the proventriculus. The obstruction was successfully removed via abdominal surgery.

Decreased motility: Decreased gastrointestinal motility can occur due to gastrointestinal obstructions and infections but also many other diseases. It may occur following over-eating, especially if the bird is in low condition or suffering from any illness. This occurs most commonly when a bird has made its first kill. The bird may have been reduced in weight to encourage it to 'enter'. Having killed, it is rewarded by allowing it to eat a large part of the kill. 'Sour Crop' is a common and rapidly serious manifestation of this decreased motility. Ingested meat is held within the crop being maintained at 38 - 40°C, with no gastric acid or enzymes present to

prevent bacterial multiplication. Initial treatment by the falconer for a slow emptying crop is the administration of 5 - 10ml/kg of saline by crop tube. The additional lubrication will often speed the passage of the food from the crop. If this is not effective and the crop is still unmoved after 6 - 8 hours, the bird will require urgent veterinary intervention. Intravenous fluids, antibiotics and non-steroidal anti-inflammatory drugs are given. The most urgent action required is to empty the crop. With the bird anaesthetised and the wind pipe entubated, the crop contents may be 'milked back' to the mouth from the crop and removed. However this may be time consuming and traumatic to the patient. It is considered that surgically opening the crop is a more rapid, complete, and lower-risk procedure, which also facilitates lavage of the crop with warm saline to remove all unabsorbed toxins. In a critical patient, it may be prudent to close the ingluviotomy on a subsequent day. Every effort should be made to identify possible underlying conditions. Following surgery the bird is given intra-venous and oral fluid replacement therapy, gradually moving over to liquid foods once the crop is emptying normally, and finally solid food without casting once the bird is begging for it.

FEEDING IN ABNORMAL CIRCUMSTANCES

Neonates: chicks are "immune incompetent" for the initial days of their lives. Hygienic food preparation is imperative. In our experience, the best preventive action is to feed a probiotic, for the first 10 to 14 days of life. The probiotic will colonise the gut with helpful organisms thereby reducing the chance of an over-growth with pathogenic organisms.

Feeding the bird which is low in condition: casting is not required on a daily basis. If a bird is low in condition, withhold casting and feed half crop of food. This may be repeated as soon as the crop is empty, rather than waiting hours for the bird to cast, in this way the bird's weight and condition can be rapidly corrected.

FEEDING THE VOMITING BIRD

Vomiting may arise in raptors because of a whole range of different conditions, all of which require veterinary attention. A bird, which is vomiting, should not be immediately offered more food, even if it is losing weight fast. The bird should be anaesthetised, a diagnostic test performed, an indwelling intra-venous catheter placed, and antibiotics, gut motility drugs and fluid therapy administered. If vomiting ceases, an hour later 5ml/kg of warm oral electrolytes may be administered. If the fluid is kept down, it should be repeated once more 2 hours later. If that is retained then a further 2 hours later, a feed with the same volume of a liquidised food (e.g. Hills A/d. Hills UK. Hatfield) should be given by crop tube. This liquidised food is repeated every 2 hours, increasing to 10ml/kg on at least 3-4 occasions. Meat is only offered when the bird recognises it from a distance and demonstrates it is keen to eat it. The first solid food offered should be easy to 'put over' and digest e.g. skinned day-old-chicks.

Feeding the inappetent bird: often one is presented with a bird, which is low in condition, but is inappetent. There are many causes for this scenario. Any mouth (e.g. trichomoniasis, capillariasis, candidiasis), oesophagus/crop (e.g. local irritant, bacterial infection, sour crop, pox virus), stomach (e.g. impaction, infection), air sac (e.g. aspergillosis, air sacculitis, egg peritonitis), major organ failure or septicaemia is likely to lead to a depressed appetite. Some birds do not want to eat, on other occasions the bird attempts to eat, but then head flicks and brings the food back. A specific diagnosis must be made and the condition treated. In the authors opinion more birds are saved by appropriate fluid therapy and nutritional support than any other medical or surgical therapy. In cases of oral or cervical trauma a tube placed through the skin of the neck, straight into the crop may be the least traumatic method of maintaining food intake. Care should

be taken in maintaining hygiene of the tube.

The bird who is not maintaining weight on its normal food intake or not gaining weight on an increased food intake: this is common reason for presentation of a bird by a falconer. As the falconer is weighing his bird daily, minor changes in metabolic efficiency are readily apparent. Frequent cast-free meals should be given to increase the bird's weight, whilst a diagnostic work-up is performed.

Feeding birds and travelling: birds should not be fed directly before travelling, in particular if they are not used to travelling. If considering an experienced flying bird, which is used to travelling, known not to suffer from travel sickness, then feeding-up after a kill and travelling home is acceptable. In other situations, a bird should not be travelled with food in the crop or proventriculus. The bird should have cast prior to travelling. If a bird casts whilst hooded or closely confined in a travelling box it may choke on the casting. ■

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VIDEO REVIEW

CAPTIVE PROPAGATION OF THE NORTHERN GOSHAWK

By Dr. Meg Robinson

Price \$85 (USD)

Published by and available from:
Dr. Meg Robinson
28A West Main Street, Waterford
WI 53185, USA

Reviewed by Peter Gill

This package contains a 45-minute video coupled with a 45-page booklet. As the propagation techniques described are via the use of voluntary artificial insemination with imprinted goshawks, the title should probably have mentioned this. AI with goshawks is growing in popularity and it is to this that the package has been launched very timely. However if purchased by a 'would be' breeder, who sees his future with natural breeding, he/she may be a little disappointed.

The video quality is as good as one would expect from a camcorder, but it is not a high quality production. The filming of semen under a microscope is very good and informative and the text and tables are well prepared, in the style of a scientific paper.

Being both a veterinarian and propagator is a rare occurrence, however the detailed accounts of past problem cases and resulting treatments in goshawks, although very interesting, could have been decreased and more emphasis given to the actual propagation techniques themselves. Little is mentioned of initial imprinting of the breeding stock, their management as juveniles and artificial incubation techniques, all of which tend to be initial questions from the tyro propagator.

The correct human courtship procedure aimed toward each sex of goshawk both prior and during the breeding season is covered in depth. There are many tips and an abundance of good and not previously published information to be gleaned in this area - it is here that the publication is at its strongest.

Due to the content and subject covered by this package along with the price tag of \$85, it will only appeal to the die-hard goshawk breeder. Just like falconers, propagators are now tending to specialise in breeding certain species, which in turn leads to a greater understanding of key areas in their chosen field - *Captive Breeding of the Northern Goshawk* is a very good example of this.

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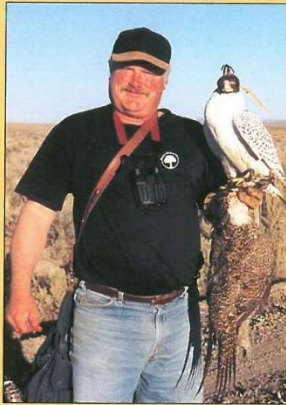
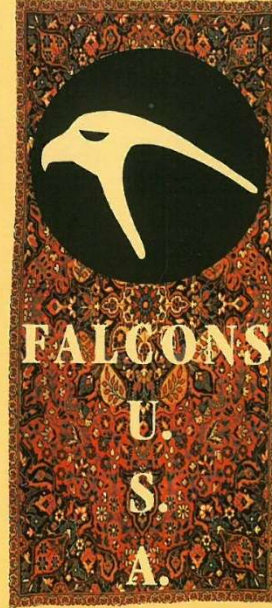
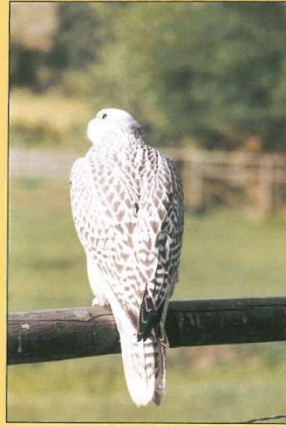
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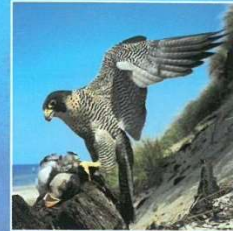
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Frank Wenzel with gyrfalcon

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