In the Absence of Wolves…

Page 1.01.A

The Golden Eagle

The golden eagle is now progressively repopulating the alpine massifs from which it had almost disappeared.

It principally feeds on small mammals and birds. Yet although it can carry away young lambs, the damage it causes to ovine flocks is quite limited. Hence, the presence of this super-predator does not spark off major conflicts with farmers.

Page 1.01.B_FR

The Golden Eagle

The golden eagle is now one of the protected species re-colonizing the Alps after having come close to extinction there between the end of the 19th century and the beginning of the 20th century. Because of the periodically organized counts and the monitoring this specie undergoes, its numbers are well known in the protected areas. For example, twenty couples and 116 eyries were registered in Vanoise national park in 2001 and 111 individuals in the Ecrins' the following year.

As the golden eagle only minimally depletes ovine flocks, it generally does not provoke serious conflicts with farmers. On the other hand, it does seriously interfere with other human activities and, although the species is protected, cadavers are sometimes found which after autopsy are found to contain lead pellets, showing that they were poached.

However, interactions with enthusiasts of sports and recreational activities which have appeared or developed in the Alps during the last decades seem more significant. The cliffs that eagles are particularly fond of are henceforth likely to be climbed, walked down, or approached by climbers or paragliders.

Administrators of protected areas suspect that the proximity of such activity is interfering with the bird's reproduction. Thus, they endeavour to negotiate with the representatives of the practitioners of these activities in order to move climbing paths and take-off sites away from known nesting grounds.

Birds of prey can also be killed by power lines or ski lift cables, both extremely abundant in the Alps: they are electrocuted by the power lines or knocked down when they hit a cable that they couldn't detect. Many organizations that are concerned with the fate of eagles, try to locate the most dangerous areas and convince the ski lift owners or EdF (Électricité de France) to put visualization devices, such as colored streamers, around the cables.

Dissuasive equipment is also installed around electrical pylons that have turned out to be particularly harmful to birds of prey. The burying of certain parts of the lines is planned or has already been accomplished.

Golden eagles thus generate both tension and collaboration between various parties. These parties include the administrators of protected areas, protectors of nature, owners of electrical or tourist facilities, sports adepts, and hunters.

This demonstrates, once again, that it isn’t nature on one side and human society on the other, and that human relations depend, in part, on our capacity to establish relations with non-humans.

Page 1.02.A

Unguarded Flocks

Ovine farming has evolved considerably in the French Alps during the second half of the 20th century: small flocks, bred for their milk and gathered twice a day for milking, have been replaced by much larger flocks, raised extensively for their meat.

Only the biggest ones are guarded: it is usually estimated that 1000 to 1500 animals are required to justify the costs of hiring a salaried shepherd. Hence, unguarded flocks, which were not entirely unknown previously, have spread.

Page 1.02.B_FR

Unguarded Flocks

'Unguarded flocks' doesn't mean there is a total absence of surveillance, but it does mean surveillance is extremely intermittent. Farmers, notably local ones, devote themselves to making hay while the sheep are in the mountain pastures. They watch their animals more or less closely depending on the time they have at their disposal, the distance between production facilities and mountain pastures, the accessibility and the dangerousness of the latter, the size of the flock, etc. They also go regularly to the pastures to observe their animals at distance using binoculars.

At the time of first snow, the sheep are assembled and brought down to the valley. Lambs, which have generally reached a sufficient weight, are then sold to be slaughtered; their meat often receives a quality label.

When all causes are taken together (rockfalls, sheep falling, rather belatedly detected illnesses, lightning, stray dogs), the non-guarding of the flocks accounts for 3 to 4% of estimated losses. With sheep pasturing as they please, such non-guarding can also translate into over-pasturage, or, conversely, in localized unvisited and thus under-grazed sites which become locally overgrown-.

The animal's very free mode of conduct? becomes impossible when very large carnivores are present, notably wolves: the latter take advantage of the situation and consume sheep at will.

Where flocks were not guarded, the first attacks sometimes remained unnoticed for a while.

~~To learn more on the subject:~~

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~~Ernoult, C., Vernet D. *et al.*, 1998. *Evolution des usages et activités pastorales dans le Parc National de la Vanoise (1972-1996)*, Grenoble, Cemagref, 92 p.~~

Page 1.03.A

Wild and Domestic Are Mixing…

Chamois graze close to sheep. Mixing between wild and domestic species, exceptional in the past, is more and more frequent nowadays.

Page 1.03.B_FR

Wild and Domestic Are Mixing…

Wild and domestic animals were, for a long time, clearly distinguished by their number, their location, their behavior, and their stoutness. While the former were numerous, always nearby, docile and plump, the latter were rare, remote from dwellings, shy and thin.

All were conscious that this was an anthropomorphic order: the practices of breeding and hunting, kept domestic and wild animals in what was considered to be the natural order, that is, as opposites of one another. The farmer eliminated the 'vicious' cow while the hunter killed the overconfident chamois. Undoubtedly, there have always been transgressors – such as the fox slipping into the henhouse, or the dog that discretely runs off into the forest to catch a hare – but their lapses, if they were discovered, were severely punished.

A 'mix of these genres?' took shape a few decades ago which has since become more pronounced. Domestic animals have become less and less docile, less and less fearful of wandering off to remote areas, less and less 'domesticated' – stables have been relegated to agricultural zones outside of villages; meanwhile, wild animals have multiplied and come down from the heights, growing so bold as to approach houses.

The frontier between wild and domestic, which was never impenetrable, has become more and more porous.

~~To learn more on the subject:~~

~~Digard, J.-P., 1990. *L'homme et les animaux domestiques. Anthropologie d'une passion.* Paris, Fayard.~~

~~Mauz, I., 2002. *Gens, cornes et crocs. Relations hommes-animaux et conceptions du monde, en Vanoise, au moment de l'arrivée des loups.* Thesis, Environmental Sciences, Paris, Engref, 511 p.~~

~~Buller H., 2004. "Where the wild things are: the evolving iconography of rural fauna." *Journal of rural studies*, 20 (2): 131-141.~~

Page 1.04.A

Stray Dogs

Dogs are said to be stray when they slip out of their master's control for a limited period, the length of which can last from an hour to a few days.

During their escapades, whether solitary or collective, they can kill wild or domestic animals, even those of great size, and their attacks on ovine flocks are likely to be quite bloody.

Any dog may go astray but some are more suspected to than others either because of the work they do (shepherd and hunting dogs), or because of their size and/or origin (German-Shepherds, Huskies).

Page 1.04.b_FR

Stray Dogs

Stray dogs are considered a real nuisance in the Northern Alps. They are loathed equally by everyone: biologists, farmers, hunters, and administrators of protected wildlife areas.

The arrival of wolves has provoked further controversy over just how much damage stray dogs cause. Due to a lack of reliable data, the numbers reported in the literature or in interviews vary in surprising proportions, ranging from less than 100 000 to more than 700 000 sheep killed in France annually.

In zones where wolves are permanently present, farmers and administrators try to distinguish between the different forms that attacks by wolves and dogs take. Wolves tend to carry out "guerilla attacks": they undertake multiple predatory forays and exert constant pressure on the flock for long periods, in order to take advantage of any flaw in surveillance. Stray dogs opt rather for raids: but for a few exceptions, they do not constantly come back to the flock, thus do not subject it to continuous harassment.

Although it is forbidden, and hence rarely commented upon, the dogs that cause damage to ovine flocks usually end up getting shot by farmers, or even, in protected areas, by guards.

To learn more on the subject:

Bobbé, S., 1999. "Entre domestique et sauvage : le cas du chien errant. Une liminalité bien dérangeante". *Ruralia*, 5: 119-133.

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Page 1.05.A

Signs at the National Park's Entrance

The boundaries of French National Parks are indicated by tricolor markings, metallic plates, and notice boards.

In theory, the regulations specific to national parks do not alter the protected status that wolves enjoy in all French territory. However, the 'plan of action' regarding wolves for 2004-2008 allows for the killing of a certain number of wolves where specific conditions obtain: for example, the failure of measures taken to protect flocks, or the impossibility of applying such measures. These cullings cannot take place in protected spaces such as the central zones of national parks and natural reserves, where other solutions must be found.

Page 1.05.B_FR

Signs at the National Park's Entrance

French national parks are unusual in that they are made up of a central and a peripheral zone.

Particular regulations apply in the first: for example, hunting is prohibited and only working dogs are tolerated. This zone is demarcated on the ground by blue, red, and white paint marks and by metallic plates anchored to regularly spaced out rocks. Of the seven French national parks, the oldest (the Vanoise, created in 1963) is situated in the Northern Alps – a region that has served as an inspiration for the production of this model.

Wolves were observed officially for the first time in France in Mercantour National Park in November of 1992. News of this event was only announced after a few months delay, which has been much commented on. Administrators have explained that they chose to wait until they were absolutely certain it really was wolves, and not merely stray dogs, that they were dealing with. Thus they published the information only after they had found the cadavers of two animals killed in an avalanche which proved upon examination to be wolves.

Opponents of great predators suspected that the administrators delayed making the news of the predator's presence known, so that they would be able to present the public with a *fait accompli*. These opponents also promptly accused the administrators of having organized or at least authorized the clandestine reintroduction of these animals to French territory, something that the officials of the Mercantour National Park and the ministry of Environment have always firmly denied. Both sides then tried to find arguments supporting the thesis of the wolves' natural return from neighboring Italy or the thesis of their clandestine reintroduction from neighboring Italy, or for their clandestine reintroduction.
, Some elected representatives of France's south-eastern departments, hostile to the presence of predators, obtained the right to conduct a parliamentary inquiry regarding the presence of wolves in France and the practice of pastoralism. Many people involved in the crisis at one point or another were interviewed by the members of the parliamentary inquiry commission. Transcripts of all the hearings were rendered public in May 2003, at the same time as the parliamentary inquiry's report. The latter concludes that it is impossible to dismiss the hypothesis that the predators were selectively released; yet on the other hand, it rejects the hypothesis of a "plot". While the controversy still refuses to abate – and looks unlikely to any time soon – the parliamentary commission's work rehabilitated the reputation of both the public services, who now no longer appear as supporters of irresponsible reintroduction, and

the proponents of the clandestine reintroduction thesis, whose convictions were taken seriously enough to give rise to a parliamentary inquiry, the latter bringing all the protagonists involved under one roof and giving them all the chance to express themselves.

The crisis that the arrival of wolves in the Mercantour triggered off had a tremendous impact on all officials in the administrative services. Convinced that the strategy adopted in the Mercantour had only aggravated the situation, after the crisis most of them tried an opposite tack: efforts were made to spread information faster, and administrators of protected areas, more conscious of the real difficulties that the presence of wolves causes for ovine farmers, refrained from welcoming their arrival as good news.

~~To learn more on the subject:~~

~~Pour en savoir plus :~~

~~"*Proposition de résolution tendant à la création d'une commission d'enquête visant à établir les conditions de la présence du loup en France et à évaluer le coût, l'efficacité et les conséquences des dispositifs engagés par les pouvoirs publics en faveur du loup*", registered at the Présidence de l'Assemblée Nationale, July 29th 2002.~~

~~"*Rapport fait au nom de la commission d'enquête sur les conditions de la présence du loup en France et l'exercice du pastoralisme dans les zones de montagne*", registered at the Présidence de l'Assemblée nationale, May 2nd 2003, 2 volumes, available on http://www.assemblee-nat.fr/12/rap-enq/r0825-t1.asp et http://www.assemblee-nat.fr/12/rap-enq/r08.~~

~~Campion-Vincent, V., 2000. "Les réactions au retour du loup en France. Une analyse tentant de prendre les " rumeurs " au sérieux". *Anthropozoologica*, 32 : 33-59.~~

~~Laslaz, L., 2004. *40 ans de parc national. Bilan et perspectives*. Paris, L'Harmattan.~~

Page 1.06.A

The Great Alpine Wildlife

For a long time, the great alpine wildlife was not very abundant and scarcely diversified. Until a few decades ago, one hardly ever saw rare chamois, foxes, badgers, and, in the best provided areas, ibexes.

Page 1.06.B_FR

The Great Alpine Wildlife

During the first half of the 20th century, pressure from agro-pastoral groups on the wildlife of the Alps was very strong as hunting weapons were becoming more lethal and more accessible. Alpine societies at that point made a sustained effort to eradicate wild animal species that were not easily compatible with agro-pastoral activities. They also kept the number of individuals in other species at an extremely low threshold through hunting practices indifferent to the management of such populations.

Thus, in the early sixties, only a few species of great size remained in the Alps. They sought refuge in hard to reach places and fled at the slightest sign of human presence. Hence, much effort and quite a bit of luck were required to catch sight of a chamois. As for ibexes, they only survived in two remote and steep sectors of Haute-Maurienne (department of Savoie). Everywhere else, this animal had been exterminated. And as for the great predators, they had completely disappeared.

~~To learn more on the subject:~~

~~Dalla Bernadina, S., 1988. "Hédonistes et ascètes. "Latins" et "Septentrionaux" à la chasse au chamois dans les Alpes italiennes". *Le Monde alpin et rhodanien (La haute montagne. Vision et représentations)* : 165-185.~~

~~Mauz, I., 2002. *Gens, cornes et crocs. Relations hommes-animaux et conceptions du monde, en Vanoise, au moment de l'arrivée des loups*. Thesis, Environment Sciences, Paris, Engref, 511 p.~~

Page 1.07.A

Capture of Ibexes

Preserved from extinction by protective measures initiated during the 19th century in the Grand Paradis massif in Italy, the alpine ibex has become one of the animals emblematic of the protection of nature. Animals are captured in the context of a scientific monitoring of the populations.

Page 1.07.B_FR

Capture of Ibexes

Being a large ungulate endowed with long and strong horns and an excellent rock-climber, the ibex is remarkably well equipped against its predators. Although it does form part of the diet of wolves, it can frequently escape them by taking refuge on inaccessible rock faces.

Its tactics clearly being less effective against hunters, the ibex population had become greatly reduced as early as the 19th century. At this time it became the first animal to enjoy protected status (1821) and Victor-Emmanuel II, *il re cacciatore*, wanting to reserve for himself a type of hunting he was particularly fond of, created a protected area in the Grand Paradis massif.

In France, the desire to protect the ungulate contributed to the creation of the Vanoise National Park (1963), which adjoins the Grand Paradis National Park and is where the few remaining ibexes still present on French territory in the 1950's managed to escape extinction. What's more, the ibex had been the national park's emblem for a long time and its protection and monitoring have strongly mobilized agents. Vanoise National Park now provides a habitat for more than 2000 ibexes and the species has also been reintroduced on many other massifs.

Towards the end of the 1980's, a national research program on Alpine ibexes saw the light of day. It aimed at improving our knowledge of the species, which was until then very incomplete. The regular monitoring of marked individuals made it possible, amongst other things, to determine the sanitary state of the populations, to reconstruct their movements (which had for a long time been enigmatic), and to better understand their social life. Methods for capturing and marking the animals have both evolved greatly. Animals were first captured with trap-cages or laces, and then anesthetized.

Over the years, the mastery of such operations has improved. However, they still present some risks for the animal: although the anesthetizing darts are shot from up-close, they sometimes hurt the animal, and because the effects of the anesthesia are not instantaneous, they can leave it feeling so disorientated that it falls to its death. The males, not being so shy, and therefore easy to approach and capture, are relatively well known today, so much so that monitoring efforts now preferentially concern females.

As regards marking, colored auricular rings were used at first. These allowed the skilled observer to identify the animals at distance. Today, other techniques (VHF, GPS) save us from having to go into the field, and provide us with data on the ibexes' movements that is more copious and more precise. However, these new techniques bring with them a transformation of our relationships with the animal: those who have practiced personalized

monitoring realize that, with such research, a certain affective affinity that comes with proximity, is lost.

To learn more on the subject:

Bigan, M., Simon G., 2000. “Histoire des réintroductions en France”. *Le Courrier de la nature*, 182 (Spécial réintroductions) : 10-13.

Couturier, M., 1943. “Projet d'un Parc National à Bouquetins en France”. *Revue de Géographie Alpine* 31 (3) : 393-398.

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Darinot F., Martinot J.-P., 1994. “Les populations de Bouquetins des Alpes (*Capra ibex ibex L.)* dans le Parc national de la Vanoise : bilan de trente années de protection”. *Travaux scientifiques du parc national de la Vanoise,* 18 : 177-204.

Gauthier, D., Villaret J.-C., 1990. “La réintroduction en France du Bouquetin des Alpes”. *Revue d'écologie la Terre et la Vie,* supplément 5: 97-120.

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Mauz, I., 2003. “Protection du bouquetin des Alpes et construction du parc national de la Vanoise”. *Cosmopolitiques*, 3 (République cherche démocratie et plus si aff.) 81- 92.

Raffin, J.-P., Voure'h A., 1992. “La réintroduction des espèces”. *La Recherche*, 23 (241) : 370-380.

Page 1.08.A

The Marmot

Marmots are so common and familiar nowadays that one can hardly walk in the Alps without observing them. The marked evolution in how they are thought of, means that they are frequently used to illustrate the changes that have occurred during the last few decades regarding the relationships mountain people and visitors have with wild animals.

Page 1.08.B_FR

The Marmot

For a long time, marmots were hunted for their meat, their fat and their skin. A shepherd could, so the story goes, double his salary by diligently trapping them. They were also dug up when hibernating, a "harvest" which required much excavation of the earth. Some of them were tamed – the little Savoyard chimney sweepers have often been represented with a marmot.

Marmot hunting is scarcely practiced anymore: their skin no longer has value, their meat is said to taste of earth, and hunting them is of no interest in itself. Because of all this, they've re-colonized places from which they had disappeared; one can encounter them at lower altitudes and they have moved closer to dwellings, cultivating areas where they even sometimes settle down.

Marmots sleep for a good part of the year; they are herbivorous, and tourists find them eminently "likeable," gladly buying cuddly toys and postcards representing them. They should therefore not be considered a problematic species.

Yet, the holes they dig, when numerous, bother farmers: the blades of mowing machines get blunted or broken on the rocks they've unearthed, and farmers and their animals can twist a foot in a hole. In the central zones of national parks, however, farmers can only eliminate marmots with the approval of the scientific council which must be authorized by a decree from the director.

The techniques used are simple and applied smoothly – marmots are generally captured in trap-cages – yet are time consuming. In certain places, the operation is renewed every year or so, the site that is rendered vacant being rapidly colonized by new individuals. Over the years, however, it has become more and more difficult to find organizations wanting marmots, so that one does not always know what to do with the captured individuals. In addition, some captures have later resulted in failure because the site where the animals were released, for example, was not always suited to the rodents. Marmots taken from Vanoise and then freed in the Bauges have thus rapidly disappeared.

In 2004, experimentation with marmot contraception was conducted in the Écrins National Park. The aim was to evaluate the feasibility and efficiency of this technique, when applied to a small number of individuals, and to determine if it could eventually replace captures.

The experimentation, which should continue in 2005, is conducted jointly by agents from the national parks and a veterinarian specialized in wildlife. It has given rise to many different reactions, most notably in the press. The extent and vivacity of these reactions surprised the

experimenters and brought them to seek the intervention of researchers in the social sciences. As always, it can be observed that interfering with animals is not a mere technical activity, and that affecting animals necessarily means affecting humans. Their identities are indissolubly tied.

Shepherded Flocks

In the absence of great predators, some flocks are guarded by a shepherd helped by his sheepdogs. These are notably the great flocks of transhumant herders from Provence.

Page 1.09.B_FR

Shepherded Flocks

There are many types of sheep flocks in the Northern Alps: some belong to local farmers, others to more remote farmers who nonetheless live in the department, while others belong to Provencal herders who own flocks of up to many thousands of heads. If the most important local and departmental flocks are only regularly guarded, as a rule, transhumant flocks are always guarded.

Shepherding makes it possible to organize and control the animal's progress on the mountain pasture, which is divided into different sectors in order to get the most out of the grass. It avoids the over-pasturing or under-pasturing of sectors. In the former case, vegetation is razed to the ground, leaving it bare in places or even completely eroded. In the latter case, the animals are not able to consume the biomass that is produced nor to maintain herbaceous vegetation: shrubs set in and the mountain pasture overgrows. Many of the problems that are likely to occur during pasturing season – sickness, injuries, bad weather, predators, etc. – can also be detected and resolved more quickly when the flock is shepherded.

Flocks return to mountain pastures in June and remain there until September. Shepherds are put up in chalets or caravans. They work with dogs – for ovine flocks, most often Border Collies or other small and vivacious dogs – who help them shepherd the flock. A good sheepdog is characterized by shepherds as one that fears its master and is feared by the sheep.

Shepherding does not mean uninterrupted human presence. The shepherd inevitably leaves his flock from time to time in order to obtain fresh supplies or simply to get some sleep. If great predators are not present, these absences are no problem.

~~To learn more on the subject:~~

~~Ernoult, C., Vernet D. *et al.*, 1998. *Évolution des usages et activités pastorales dans le Parc National de la Vanoise* (1972-1996), Grenoble, Cemagref, 92 p.~~

~~Delavigne A.-E., 2004. "The private life of the shepherd. How documentary films represent the living conditions of the shepherd during summer transhumance". *Journal of Alpine research*, 2004 (3): 95-112.~~

Page 1.10.A

Tourists

Initiated by the British in the 18th century and a mass phenomenon since the second half of the 20th century, tourism has drastically changed the Alpine economy of which it is now the basis.

Tourism is accompanied by particular developments and specific equipment – ski resorts for wintertime, refuges and hiking paths for summertime – that have greatly contributed to the evolution of natural landscapes and ways of life.

Page 1.10.B_FR

Tourists

Winter tourism is essentially concentrated in ski resorts, of which a small number — those created *ex nihilo* at altitude in the 1960's— hold the majority of beds destined for tourists. During summer, attendance is more diffuse even if protected areas are often frequented.

Tourist practices have changed a lot during the last two or three decades. While trekking and skiing were for a long time the only sports practiced, new ways of gliding have appeared as well as white water rafting and airborne sports. The use of snow shoes has spread a lot, and skiers now have to share the slopes with snowboarders and telemark adepts, just as trekkers share paths with mountain bikers, and, outside of protected areas, all terrain vehicle drivers.

Nowadays, every landscape is visited at one point or another, in one way or another: the most steep corridors by off-piste skiers during winter and by mountaineers during summer, the remotest massifs by trekkers or cross-country skiers, caves by speleologists, cliffs by climbers, the sky by paragliders, and the torrents are frequented by kayakers, people canyoning, and rafting and hydrospeed adepts. Regardless of their biotopes or the season, the chances are high that wild animals will meet with humans who are often unprepared for such encounters, since most are from urban regions and are only visiting. The arrival of great predators therefore occurs in a different context than the one predominating in countries where rural tourism is, for now, underdeveloped.

~~To learn more on the subject:~~

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~~Stephen L., 2003. *Le terrain de jeu de l'Europe*. Paris, Hoëbeke.~~

~~Inquiries on frequentation are available on the Internet sites of national parks: www.vanoise.com; www.les-ecrins-parc-national.fr~~

Page 1.11.A

Abandoned Pastoral Sheds

If ovine farming is far from being negligible, dairy bovine farming predominates in the Northern Alps. Pastoral practices having evolved a lot since the 1960's, many buildings that were once used to shelter cows and men have now been abandoned and are in ruins.

Page 1.11.B_FR

Abandoned Pastoral Sheds

The mountain pastures are scattered with buildings – buildings for the cows, chalets, simple sheds, cheese cellars – often left in terrible states. Most were used to shelter men, who were much more numerous in the past, while some of them were used for the making and "caring" of cheese. Indeed, in the absence of motorized vehicles, it was difficult to carry milk over great distances.

The least accessible and least productive mountain pastures have simply been deserted. Nonetheless, most pastures are still made use of. However, the technical, political, and social changes that have occurred since the 1960's have completely modified the way they are exploited.

Electrical fences, which save shepherds from guarding their animals, and milking machines, the 50th anniversary of which was celebrated in the French Alps in September 2004, have allowed for a considerable reduction of labour. The creation of dairy cooperatives and the construction of pastoral tracks has also encouraged the bringing of milk down into the valleys. Thus mountain pastures where cheese is still made, and where, therefore, buildings are still being used, are relatively rare today.

~~To learn more on the subject:~~

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~~Viallet H., 1993. *Les alpages et la vie d'une communauté montagnarde : Beaufort du Moyen Age au XVIIIe siècle.* Annecy~~

Page 1.12.A

Replay

In order to study certain bird species that are particularly hard to observe, ornithologists make use of a particular technique called “replay”. They emit the sound of a bird’s singing, taped beforehand, to try and elicit responses.

Page 1.12.B_FR

Replay

Captivated by the emitted sound — not by the fellow creature it believed it to be, but by a trick, — the bird reveals its presence by his song. So this is a very special sort of entrapment based on a maximal resemblance to the being one wants to attract or simply locate.

Replay is one of the very ancient techniques – hunters have been using decoys for centuries – which protectors and administrators of nature have taken up and refined by adapting it to their needs and objectives.

Page 1.13.A

The Hunter

In the Alps, where villages often have from fifty to a hundred hunters, hunting is one of the great autumn activities. Many ungulate species can now be hunted such as the wild boar, the mouflon, the stag (red deer), the roe deer, and the chamois, the latter remaining the favorite game of many mountain dwellers.

Page 1.13.B_FR

The Hunter

Even though many mountain peasants occasionally shot a hare, a grouse or a chamois, regular hunters were relatively few until the 1960s. One could always find a small number of specialists in every village prepared to travel over distances and through considerable differences in altitude in order to kill the rare surviving chamois. These men enjoyed a special status in their village.

As the game became more abundant, and the weapons cheaper, the number of hunters increased. For a while, a period some hunters now refer to as the golden age, there was more game and less rules to respect.

Guidelines for hunting were then established which changed hunting practices. These guidelines changed the relations between hunters, as well as the hunters' relations with animals. A quota was set for species subject to the guidelines as well as for hunting societies. Restrictions on age and sometimes gender were applied to the hunted animals. Hunters were required to attach a bracelet to the animal's leg which they would later show to a board of inquiry. Hunting sectors were also sometimes allocated, and teams constituted that hunted one after the other, in order to avoid disturbing the wild life too much.

Hunting is therefore much more controlled and supervised than it was before, and some, notably the oldest hunters, have lost all interest for it. The modification of the regulations has been accompanied by significant changes in the relations between hunters and their relations to animals. While hunters used to kill any animal they pleased, the goal being to shoot before anyone else, they now have to identify the animal, which requires longer periods of observation and sometimes entails the use of a telescope. Good hunters are not the best killers anymore, those being now perceived as "meat-hungry" hunters. Rather, they are the type of hunter that can distinguish, at distance, a male from a female chamois, or say if the horns are smaller or bigger than the ears .

~~To learn more on the subject:~~

~~Dalla Bernadina, S., 1994. "Pour une ethnologie des frontières en milieu alpin". *Géographie et cultures*, 9: 57-76.~~

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Dalla Bernadina, S. (octobre 1989). "L'invention du chasseur écologiste : un exemple italien". *Terrain*, 13: 130-139.

Mauz, I. (2002). "Gens, cornes et croes. Relations hommes-animaux et conceptions du monde, en Vanoise, au moment de l'arrivée des loups". Thesis, Environmental Sciences, Paris, Engref, 511 p.

Page 1.14.A

Chair Lifts

Chair lifts, which enable skiers to effortlessly go back up the slopes, are very widespread on the Northern Alps, where a great number of winter sports resorts of international reputation are concentrated.

It's in no small proportion that they've contributed to modifying the mountain landscapes by creating long scars in the forests and mountain sides.

Page 1.14.B_FR

Chair Lifts

Protected areas and winter sports resorts were created simultaneously in the 1960s and 1970s, the former being delimited so as not to hamper the development of the latter. The partition of the territory did not, however, prevent conflicts, the most famous of which was the Vanoise affair in France (1969-71). Towards the end of the sixties, promoters became aware of the economic potential of summer skiing and started eying up the park's glaciers. One of them, Pierre Schnebelen, planned to build a resort right in the central zone. The park's administration council was extremely divided over whether to protect nature or to encourage economic development. With one vote deciding the outcome, the council "decided not to oppose" the project. This decision was rejected by the scientific committee and the National Park's Friends Association, sparking a genuine struggle for the Vanoise. Naturalists had practically no experience with such activities. They set up structures, employed new tools, and worked hard to make the problem which preoccupied them an issue for the whole of French society. In fact, they succeeded in arousing a movement of public opinion that was so big it impressed the highest authorities of the country and brought them to act. In the end, the proposed project was abandoned. The "Vanoise affair" was not the first awakening of a French ecological sensibility, but it was the first major "affair" in which a generation of naturalists formed themselves into an ecological militancy.

But for a very few exceptions, the national parks' central zones remain unharmed by ski lifts. On the other hand, the peripheral zones enjoy no specific protection and facilities are abundant there. In particular, the Vanoise National Park is encircled by large, sometimes immense, winter sports resorts, the Tarentaise being the leading region for mountain tourism in Europe.

Nowadays, we are witnessing a massive replacement of the facilities with a distinct tendency to augment their speed and capacity whilst at the same time lowering their number. The installation of new facilities requires considerable work and investment, the amount of which constantly increases. In 2004, the cost of work and investment totalled 348 million euros (exclusive of taxes).

~~To learn more on the subject:~~

~~Charvolin, F. (1993). *L'invention de l'Environnement en France (1960-71). Les pratiques documentaires d'agrégation à l'origine du Ministère de la protection de la nature et de l'environnement.* Grenoble, Paris, Univ. Pierre Mendès-France, Ecole nationale supérieure des Mines de Paris, 503 p.~~

Laslaz, L., 2004. *40 ans de parc national. Bilan et perspectives.* Paris, L'Harmattan.

Mauz, I., 2003. *Histoire et mémoires du parc national de la Vanoise. 1921-1971 : la construction.* Grenoble, Revue de géographie alpine, collection Ascendances.

In the village…

Page 2.01.A

Anti-Wolf Demonstrations

Every autumn, farmers take advantage of their coming down from the mountain pastures to demonstrate against the presence of wolves. Leaving the mountains as winter approaches, they stop in large alpine cities where they march with their flocks.

Page 2.01.B_FR

Anti-Wolf Demonstrations

While they've taken measures to protect their flocks – something almost all of them are forced to do – most farmers remain opposed to the presence of wolves and some demonstrate against it every year.

Two different types of demonstration can be distinguished that both involve displaying ewes and letting them "talk". The first type of demonstration follows the occurrence of particularly bloody attacks, where farmers leave sheep cadavers in front of the buildings that house administrative services in charge of agriculture and environment: the number of animals and the seriousness of their wounds are intended to highlight the extent of the damage to flocks and farmers.

The second type of demonstration is also organized at the end of the pasturing season when flocks come down from the mountainsides. Farmers meet in large alpine cities – such as Nice, Gap, Grenoble, and Chambéry – where they organize marches, thereby bringing the problem to the attention of city-dwellers who are said to be predominantly in favour of the wolves' return. Endangered domestic breeds which have suffered from the wolves' attacks – such as the Brigasque Ewe and the Rove Goat – are then placed at the procession's head in order to remind people that farming also produces biodiversity and that this domestic biodiversity can suffer from the presence of wolves.

Some demonstrations have united farmers from all over the French Alps, like the one that took place in October 1998 in Lyon, and even from all over Europe, like the one that took place in Nice in September 2001.

In answer to the farmers' and professional agricultural organization's anti-wolf demonstrations, the great predator's defenders have also often demonstrated, notably in Paris, and more recently in the very heart of the Pyrenees.

Page 2.02.A

Slogans hostile to Wolves

Hostile slogans against wolves or warnings of the predator's presence are sometimes written on walls or road signs.

Page 2.02.B_FR

Slogans hostile to Wolves

Protective measures have been taken with regard to the presence of the great predators. Pastoral practices have also, up to a certain point, adapted to this presence. Notwithstanding this, farmers remain, but for a few rare exceptions, very hostile to wolves and protest against their presence by various means.

The inscription of anti-wolf slogans is one of those means: sometimes messages are found that read "No to Wolves" or "Death to Wolves". Other inscriptions warn trekkers of the risks the wolves' presence represents, according to farmers.

Page 2.03.A

Media

Journalists from the written press, from radio, and from television, regularly devote articles or programmes to these great predators and to the tensions they spark off.

The conflicts generated by the wolves' presence are also indisputably played out in the media.

Page 2.03.B_FR

Medias

Journalists, just like the farmers, protectors, hunters, agents of the variously involved State services, flock and wildlife technicians, tourists, scientists, elected representatives, and the animals themselves, are indisputably actors in the crisis that the wolves' arrival has caused in the French Alps.

Countless articles and programmes are dedicated to wolves and to the tensions they ignite: all media show some interest in the subject, from local press to television, including national dailies and radio.

It is of the utmost importance for the wolves' supporters and their opponents to make their presence felt on the media scene by being interviewed, filmed or taped: their positions and arguments are then communicated to a vast number of readers, listeners, or spectators. Proponents from either side of the debate who possess qualities different from the ones needed on the political, scientific, or technical scene, are sought out by journalists and become privileged spokespersons for lycophiles and lycophobes alike. This is because they possess the qualities that the media prize, such as availability, the ability to react quickly to events, and the capacity to simplify, summarize, and to come up with punchy or provocative expressions, in short, the capacity to "shape" ideas.

Many magazines especially dedicated to wolves or to the great predators have also been created, mostly due to the initiative of the protection associations. This is the case with *La Gazette de la meute*, now *La Gazette des grands prédateurs*, published first by the Groupe Loup France and then by Ferus after the fusion of the former with the Artus association, which is devoted to the protection of bears.

Another example: *La voie du loup*, published in France by France Nature Environnement. Within the framework of the Life-Loup plan, the State has also published a report, entitled *L'Infoloups*, the first issue of which dates back to 1996. *L'Infoloups* tries to report impartially on the evolution of the wolf population and its monitoring, on the various forms of indemnification, and on the measures taken for the protection of flocks.

~~To learn more on the subject:~~

~~Issues of *Infoloups* can be consulted at www.loup.environnement.gouv.fr~~

~~About *La Gazette des grands prédateurs*, see www.ours-loup-lynx.info~~

~~About La Voie du Loup, see www.fne.asso.fr/GP/publications/VL.htm~~

Page 2.04.A

School Visits

One of the protected areas' agents' missions is to inform kids about their job and help them discover the fauna and flora of natural environments. The wolves' arrival in particular has occasioned numerous visits of agents to schools.

Page 2.04.B_FR

School Visits

Aside from their protection mission, agents of protected areas also have a pedagogical role.

Specific efforts are directed towards children and the young in accordance with the idea that they are the actors and decision makers of tomorrow. Agents lead school outings in the field and also visit classrooms.

Discussing the wolves' arrival is a sensitive subject: each class contains sons and daughters of farmers or hunters who can be radically opposed to the predators' presence so that what the agent says often totally contradicts the viewpoint of the pupil's family members. On some occasions, these visits have caused squabbles, families accusing the agents of taking advantage of the school's authority to propagate the message of the wolves' protectors, and thus also of trying to discredit their own point of view amongst their children.

Agents therefore had to choose between not discussing wolves at all, in order to avoid engendering polemical debates, or learning to treat the subject in a way more acceptable to the children and their families – for example, by discussing not only the biology and ethology of wolves, but also the problems raised by their coexistence with pastoral activities.

Page 2.05.A

Eco-Tourism

Like other wild animals, wolves constitute a new economic resource: objects – postcards, posters, stuffed animals, tee-shirts, etc. – bearing a positive image of a wolf are marketed in souvenir shops. Thematic outings are also offered by mountain professionals.

Page 2.05.B_FR

Eco-Tourism

As the great wildlife develops in the Alps, a new economy built around its hunting or its protection emerges. The National Forests Office markets days of stag or chamois hunting where the hunter is accompanied by an agent.

Souvenir shops have been selling objects representing widely known animal species for quite a long time.

Tourists are offered outings where they can observe and perhaps approach wild animals. For example, Ibexes are a genuine resource for some Vanoise mountain guides. Wolves are no exception; on many display shelves, they've caught up with chamois, ibexes, and marmots.

In the Mercantour or the Vercors, one can "walk in the tracks" of wolves by hiring the services of a guide. A park dedicated to wolves should be open in April 2005 in Saint-Martin de Vésubie, in the Mercantour, where visitors will be able to see the wolves more easily than in their natural environment.

Defenders of the predators rely heavily on the fact wolves contribute to economic development when trying to persuade local populations to accept them. They maintain that farmers themselves could profit from the wolves' presence if their products were to receive a label indicating that they work in a region housing predators; "Wolf Country Lamb" for example.

The idea isn't new: it was used for Loué chickens — where the chicken buyer learns that the chicken could have been eaten by foxes but was protected by Border Collies — and for a Pyrenees cheese made with goat's milk from a region frequented by bears.

It nonetheless remains quite difficult to assess the current extent of the market generated by the presence of wildlife in general, and by wolves in particular, and even more difficult to imagine how much it would expand if it was further developed.

As with everything concerning wolves, estimations vary greatly according to different sources.

Page 2.06.A and page 2.06.B_FR (The Town Hall): coming soon!

The Wolves Settle In…

Page 3.01.A

The Wild Ungulates Retreat

The arrival of great predators necessitates the establishment of various measures for the protection of ovine flocks.

One of those measures is to introduce specially trained dogs which tend to scare off all who try to approach. Wild ungulates (ibexes, chamois, wild boars, stags, roe deers and mouflons) in particular are driven away from the sheep.

Page 3.01.B_FR

The Wild Ungulates Retreat

The introduction of wolves has occasioned the modification of pastoral practices which were, until recently, just about satisfactory. Protective measures now exist that call for changes so deep and efforts so vast that the farmers generally do not apply them right away.

Most of them wait until their flock has been attacked, or even until it has suffered heavy losses, before resigning themselves to applying the protective measures. The idea that accepting protective measures equates to accepting the wolves' presence has also contributed to the deferral of their adoption.

Many kinds of protective measures have been elaborated and are applied with the financial and sometimes technical support of the State. Examples of such measures are: establishing or reinforcing caretaking, rounding up animals at night, and the introduction of watchdogs to the flock.

Watchdogs do not merely drive predators away from the flock. They generally tend to drive away all animals that are not sheep, notably the wild ungulates.

It seems that the latter have gotten closer and closer to domestic ungulates, which could cause sanitary problems. The direction of the transmission of pathogenic germs, that is, whether the direction runs from the wild to the domestic or conversely, is bitterly debated locally.

Be that as it may, the re-establishment of a certain distance between domestic and wild flocks can reduce the risks of mutual contamination by limiting contacts between closely related species.

However, watchdogs do not always limit themselves to repelling ungulates and they sometimes chase them…

~~To learn more on the subject:~~

~~Durant T., 1997. *Gestion pastorale et faune sauvage. Laboratoire départemental d'analyses vétérinaires de la Savoie / parc national de la Vanoise*. Internal report, 166 p.~~

Page 3.02.A

Poaching

Since their arrival in France, wolves have been illegally shot or poisoned in numbers that are difficult if not impossible to accurately estimate. Complaints have been lodged by the State and wolf protection associations, leading to the prosecution of some poachers.

Page 3.02.B_FR

Poaching

Although there are exceptions, the vast majority of farmers are strongly opposed to the wolves' presence. Not only can the wolves endanger their business, they at best make their existence and their work much more complicated.

A form of poaching exists whose extent is very difficult to measure. However, that wolves have been poisoned is known with certainty. The use of poison is particularly dreaded and denounced by the State and associations for the protection of nature because it represents a significant threat, not only to wolves, but also to a number of other species, and it is difficult to control..

Effective, relatively easy to use (although there is a knowledge of poisoning just as there is a knowledge of hunting or poaching), anonymous and indiscriminate, poison is described today as the blind and cowardly weapon *par excellence*. In the mountain villages, it is not exceptional to use it against dogs that one wants to discretely get rid of and is known to have been used until recently against foxes. At the end of the 19th century and into the early 20th, it was officially recommended against wolves and is suspected to be largely responsible for their disappearance.

Some wolves have also been shot. It could be that the shootings were encouraged by the protectors' claims that farmers and hunters must adapt to the presence of wolves. By shooting wolves, or merely pretending to, it is probable that some farmers wanted to make it clear that the predators' presence cannot be imposed on them, that they are good enough marksmen to eliminate themand that wolves are not the unreachable and invincible animals their supporters make them out to be.

It is often quite difficult to identify the perpetrators of such poaching, unless someone claims responsibility for it. A few farmers have nonetheless been prosecuted.

For the first time since the predators' arrival in the Mercantour, an official strategy for the management of wolves has been proposed by the new Plan of Action on Wolves which applies to the 2004-2008 period and succeeds two Life European programs.

This plan allows for the possibility of killing some wolves if protective measures have failed or if they could not be applied. The maximal number of wolves that can be killed is determined on the basis of counts done during the previous winter and predictive models that do not take poaching into account.

In 2004, two wolves were killed by agents from the Hunting and Wildlife National Office under the remit of this action plan.

~~To learn more on the subject:~~

~~Plan of Action on Wolves 2004-2008, available for consultation at www.ecologie.gouv.fr~~

Page 3.03.A

Guarded Flocks

One of the measures being taken to protect the flocks is the stepping up of surveillance. Thus, farmers whose mountain pastures are situated in zones where wolves are permanently present are financially encouraged to hire shepherds and shepherd-helpers that can take charge of watching over the flock.

Page 3.03.B_FR

Guarded Flocks

Because of the financial burden it represents, and the small profit generated by their activities in the current commercial conditions, farmers cannot afford to hire a shepherd or a shepherd-helper if they do not receive substantial help.

Within the framework of the new plan of action 2004-2008, ovine and goat farmers located in the zones where wolves are permanently present are encouraged to enter into a contract which commits them to take a number of measures, one of which is the putting in place or reinforcement of surveillance. Thus human presence on the mountain pastures tends to increase with that of the predators, contrary to the tendency of the last few decades.

It remains that flocks need to be sufficiently large, which is generally not the case with the local farmers' flocks; merging can be a solution, but it means overcoming problems that sometimes appear, notably sanitary ones, and is dependent on there being a good relationship between the farmers involved.

As with other existing measures, the reinforcement of surveillance is not entirely effective. It contributes to lowering the number of attacks and of victims per attack, but it does not completely eradicate predation. Indeed, wolves know to attack when conditions are favorable; at night, in bad weather, or when the men guarding the flock take a break or momentarily go away.

An assistance program for farmers has been set up by associations for the protection of wolves that deserves to be mentioned, even if it is of limited scale. "Eco-volunteers" receive a brief training and make themselves available during pasturing season to help set up pastoral areas or provide assistance to farmers who request it.

In 2004, about forty of those eco-volunteers offered their help to more or less fifteen farmers in the context of the "PastoraLoup" program, founded in 1999 by the Ferus association. These initiatives attest to the existence of links between lycophiles and lycophobes and show that wolves are not only a reason for squabbling: in certain cases, they give rise to new relations between groups who had managed previously to avoid and ignore each other.

~~To learn more on the subject:~~

~~Plan of Action on Wolves 2004-2008, available for consultation at www.ecologie.gouv.fr~~

~~Ferus (2004) : Pastoraloup 2004 Activities Report. 24 p. Available for consultation at www.ours-loup-lynx.info~~

Page 3.04.A

Night Pens and Pastoral Sheds

In order to reinforce the surveillance of ovine flocks in the zones where wolves are present, state funded pastoral sheds have been built or repaired. At night, flocks are gathered in a pen close to the sheds: shepherds and shepherd-helpers can therefore quickly intervene if the animals show signs of agitation.

Page 3.04.B_FR

Night Pens and Pastoral Sheds

The guarding of flocks requires the presence of pastoral sheds where farmers and their helpers stay for the whole of the pasturing season. As old sheds are in very bad shape or do not conform to hygiene and comfort rules, considerable renovation work must be undertaken so that they can be used again. More modern sheds have also been built in the context of the Life-Loup European programs. These two Life programs (1997-99 and 2000-03), jointly financed by France and Europe, sought to make the reintroduction of wolves possible by providing the necessary tools for the monitoring of the species, for the indemnification of damages, and for the adaptation of agro-pastoral practices to the new conditions engendered by the great predator's arrival.

The nightly gathering of the flock next to the shed requires time and demands that the distance to be traveled be not too great – on vaster mountain pastures, several sheds must be constructed and will be used all summer long. It is not possible to implement the measures intended to allow for the coexistence of domestic flocks and great predators without perceptibly modifying the mountain's appearance and atmosphere. In zones where wolves are permanently present, one now comes across sheds, watchdogs, and farmers and all their necessary equipment.

In addition, sectors where sheep were penned for the night leave brown patches because the ground has been exposed and the animals' excretions have accumulated (which is also likely to cause sanitary problems).

After all is said and done, a mountain where domestic flocks and great predators coexist is clearly more anthropomorphized than a pastoral mountain deprived of predators. While it is generally held to be a symbol and gauge of the unfettered state of nature, the wolves' arrival rather tends to reinforce the need for equipment and development, and, more generally, to increase the signs of human presence.

~~To learn more on the subject:~~

~~Life Program's Intermediary Activity Report: "Le retour du loup dans les Alpes françaises", N°Life 99 NAF/F/006299. 2002.~~

~~Available for consultation at www.paca.environnement.gouv.fr~~

Page 3.05.A

Tourists and Great Pyrenees

The Great Pyrenees is one of the principal breeds that are used in France to protect flocks against great predators. Because the dogs can scare or even attack persons walking through or approaching the flock, notice boards are placed on roads leading to the mountain pastures that warn of their presence and inform the public what behavior is appropriate.

Page 3.05.B_FR

Tourists and Great Pyrenees

In every region where great predators and domestic flocks coexist, watchdogs are used in order to protect the latter from the former. Their great size makes their behaviour and appearance impressive, and the fact that many dogs are generally required for the safekeeping of just one flock makes them seem even more formidable.

When wolves arrived in the Alps, Great Pyrenees were introduced to the flocks, partly because this breed was still being used against bears in a few Pyrenean valleys, thus making it possible to rapidly obtain a good number of them, and partly because these dogs are said to be better psychologically adapted to the alpine context than other breeds. They are indeed reputedly less aggressive (than other breeds of guarddogs). Farmers have also acquired watchdogs from the Maremma and Abruzzes breeds of sheepdog.

The extent and the diversity of tourist practices on the Alps makes the farmers', shepherds', and sheepdogs' task much more difficult. While sheepdogs are meant to repel predators – which tourists' dogs can sometimes be – they must refrain from being aggressive towards tourists, regardless of the sometimes sudden and surprising ways the latter arrive on the mountain pastures. Sheepdogs must therefore learn to distinguish "unusual" situations, where they ought to act, from those where they must refrain from acting. Some farmers have had to get rid of certain dogs that have proved aggressive and occasioned too many conflicts with tourists or neighbours. Both of the latter sometimes lodge complaints against the farmers. However, no serious accident has been reported.

Tourists must also learn to behave properly towards guarded flocks and watchdogs. For example, they must learn to go around the flock rather than through it, and they must refrain from running away even if several watchdogs are charging them, which is far from being an obvious course of action.

The implementation of protective measures, and more particularly the use of watchdogs, thus requires a specific form of learning on the part of all protagonists, humans and non-humans alike, which explains why such measures cannot be applied overnight or even from one year to the next. Time is necessary for farmers, shepherds, tourists, ewes, watchdogs, etc., to know what they have to do and to identify the attitudes that they can or ought to adopt, or, conversely, avoid.

~~To learn more on the subject:~~

~~Bobbé, S., 2000. "Un mode de garde écologiquement correct : le chien de protection". *Ethnologie française*, 30 (3) : 459-472.~~

~~Durand, C. (2001). *Intégration pastorale des chiens de protection - Bilan 1988 à 1998*, ONCFS - Programme Life II**:** 46.~~

Page 3.06.A

Special Safety Measures around Cliffs

Some mountain pastures have dangerous zones like ridges, off of which sheep can throw themselves in great numbers when panic-stricken. Wolf or stray dog attacks can thus cause dozens of animals to die. Improvements, such as the installation of fences on cliff edges, can contribute to limiting these risks and to making the mountain pastures more secure.

Page 3.06.B_FR

Special Safety Measures around Cliffs

It sometimes happens that a part of the flock, or even the whole flock, will fall off a rock when subject to predation on a particularly steep mountain pasture: the panic-stricken animals jump off from a ridge or a cliff, a single attack thus causing the death of dozens or hundreds of sheep.

Every summer, a small number of attacks are thus responsible for a large proportion of the total recorded losses and represent a real catastrophe for the farmers involved. Landscaping that blocks access to the most dangerous mountain sectors contributes to limiting these spectacular accidents.

Some mountain pastures, however, remain particularly exposed. The presence of predators can even lead to their desertion if the guarding and safekeeping of the sheep proves too delicate in virtue of the difficult access, the steepness of slopes, the density of the undergrowth, or if the risks of falling are too great.

So that farmers can improve their mountain pastures and reinforce the surveillance of the flocks, they are encouraged to employ shepherd-helpers whose salary is funded by the State.

Page 3.07.A

Sheep Falling Off Rocks

Sheep falling off rocks, whether it is the whole flock or only a part of it, is one of the most serious accidents that can happen when great predators – wolves or stray dogs – attack. Sheep are gregarious animals: when panic-stricken, they tend to follow one another, and, one after the other, they sometimes throw themselves off a cliff or a ridge.

Page 3.07.B_FR

Sheep Falling Off Rocks

Since the wolves' arrival in the Alps, almost every pasturing season is witness to sheep falling off rocks; a single attack can thus push dozens and even hundreds of sheep to their death. Such a fall caused the death of 50 sheep in 2004 in Savoy, which represents 1/8 of the losses during that pasturing season. In 1999, 180 ewes plunged to their death in similar circumstances.

These tragic and spectacular events are much commented on in the press, and the pictures taken of the piles of cadavers that must be evacuated by helicopter are widely distributed by professional agricultural organizations.

The risk of sheep falling off rocks strongly disturbs farmers, who, in a matter of a few minutes, can loose the result of years of work. On mountain pastures with significant escarpments, improvements are made that aim at reducing the risks of falls: particular efforts are made to fence off the access to cliffs.

Losses incurred when domestic animals fall victim to attacks by predators are subject to indemnification according to scales negotiated by the State services and the professional agricultural organizations. Indemnification is subject to the following conditions: the responsibility of wild predators must not have been totally excluded, protective measures must have been applied by the farmer if the flock was in a zone where wolves are permanently present, and the carcasses must have been found quickly enough (the farmer must have produced the injured or killed animals to certified agents —Hunting and Wildlife National Office agents, protected areas agents, policemen, etc. — who are in charge of drawing up reports).

Animals are not indemnified that disappear or whose body is found once the cause of death has become impossible to determine, a situation denounced by farmers, who argue that it can be both very difficult and time consuming to locate the cadavers.

A great predator's attack is also stressful for the whole flock. Such stress can translate into, for example, the abortion of gestating ewes, and lambs not growing as fat as they might have. Hence, a stress allowance is allocated for each surviving animal up to 300 heads.

Page 3.08.A

Feeding the Great Pyrenees

The Great Pyrenees is the leading breed used to protect flocks against wolves in the Alps. These watchdogs are supposed to stay permanently with the flock. In the absence of shepherds, farmers must bring up bags of dry dog food to feed them (one dog eats more or less 1kg of dry food per day).

Page 3.08.B_FR

Feeding the Great Pyrenees

The introduction of watchdogs to flocks is one of the measures taken to reduce predation. These dogs, essentially of Great Pyrenees or Maremma and Abruzzes Sheepdog breeds, are trained to constantly stay with the flock. They must be particularly vigilant when visibility is poor – at night and in bad weather. It is considered that at least two dogs are needed to keep watch over a flock, as an animal alone will get bored and might abandon its charges. Some large flocks are kept watch over by three or four dogs.

The purchase of dogs is subsidized but farmers are responsible for their food, the cost of which is relatively high given the size of the dogs. Farmers in the Alps were at first not used to these dogs and were often disconcerted by their behaviour, which is quite different from that of sheepdogs. Technical monitoring is all the more necessary as the dogs are generally introduced in emergency situations – for example, when attacks have just occurred and the sheep and farmers are quite stressed.

Some flocks of small or medium size are guarded only by dogs. Farmers must then climb up to the mountain pastures in order to feed them, which can take them an hour or two. The installation of dispensers was considered but the idea was abandoned in the end: although dogs are closer to sheep than to men, they nevertheless still need to stay in contact with the latter and to receive encouragement in order to remain interested in their work.

~~To learn more on the subject:~~

~~Bobbé, S., 2000. "Un mode de garde écologiquement correct : le chien de protection". *Ethnologie française*, 30 (3) : 459-472.~~

~~Landry, J.-M., 1998. *L'utilisation du chien de protection en Suisse. Une première analyse, KORA*, 31 p.~~

~~Wiek, P., 1998. *Le chien de protection sur troupeau ovin. Utilisation et méthode de mise en place*, ARTUS.~~

~~*Farmers' testimonies from the coastal Alpes about their experiences with watchdogs*, 2003. Association pour la Promotion du Pastoralisme dans les Alpes Maritimes. 6 p. available for consultation at www.appam.net~~

Page 3.09.A

The Bearded Vulture or Lammergeyer

The bearded vulture is a very large bird of prey. It is currently being reintroduced to the Alps where it had previously been made extinct. It feeds only on bones, which it drops in mid-flight from great altitudes so as to smash them and gain access to their marrow.

Page 3.09.B_FR

The Bearded Vulture or Lammergeyer

The bearded vulture is one of the emblematic species administrators and protectors of nature wished to reintroduce to the Alps. The first reintroduction operations attempted in France were carried out in Haute-Savoie on the initiative of agents of Departmental Agricultural Management. Birds captured in Afghanistan — where the species is common — were the ones reintroduced. These first attempts resulted in complete failure and prompted those involved to have recourse to animals detained in the various European zoos.

The opposite course of action was taken for the ibex. Captive animals were brought in before captures in the natural environment were organized. For each species, then, specific techniques need to be devised, which has proved quite complex in the lammergeyer's case.

Indeed, forming couples proved a delicate task due to the absence of any apparent sexual dimorphism. At first, small incisions on the genitals were made in order to determine, with the help of an endoscope, if the animal was male or female; hormonal measurements were later introduced. However, simply bringing birds of both sexes together will not necessarily result in reproduction; incompatible tempers are not exceptional and couples that can't get along have to be separated.

Because of these difficulties and the relatively late age at which females can procreate (about seven years old), it took a long time before fledglings were obtained. These latter are raised by their parents in aviaries before being released into designated areas such as the Bargy massif and the Mercantour in France, the Rauris massif in Austria, etc. Once released, they must learn to feed and fly by themselves. An international reintroduction program was worked out under the supervision of Asters, the Haute-Savoie natural reserve's manager (it happens to be an association), which deals with the planning of the reintroduction.

Every bird released is named and can be visually recognized and monitored thanks to a discoloration of some of its feathers. Extremely well adapted for long distance flights, the bearded vulture colonizes massifs other than the reintroduction sites. One lammergeyer, for example, was spotted in Vanoise for the first time in 1989, and the first instance of reproduction was observed there in 2002.

The bearded vulture fascinates agents of protected areas just as much as the ibexes did some thirty or forty years ago. Their progress is being observed with great attention and a significant number of working hours are devoted to their monitoring and protection. For example, negotiations are taking place with EdF to try to prevent young birds being killed by electrical lines.

Because of the animal's diet – it feeds on bones – its presence generally does not give rise to any specific objections on the part of farmers and hunters. However, some rare cases of poaching were recorded, either very far from the reintroduction sites, where the lammergeyer isn't known, or where the bird was confused with a golden eagle – also protected.

~~To learn more on the subject:~~

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~~Courtin, J.-P., 1987. *Protéger la montagne. Entre Léman et Mont-Blanc, des réserves naturelles et des hommes.* Lyon, La Manufacture.~~

~~Internet site: www.gypaete-barbu.com~~

Page 3.10.A

Networks of Observers

Networks of observers have been formed in every department where wolves are known to be present. Mostly made up of agents from various State services, they aim to pick up every sign relevant to the presence of wolves in order to obtain better knowledge of the progress of the predator, and thus to be able to react swiftly in newly colonized sectors.

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Networks of Observers

It's only because there are observers regularly picking up signs of their presence, that the location and behavior of wolves can be monitored. As soon as the wolves' presence in a new department is known, a network made up of several dozen people is formed whose role is to collect and transmit all information likely to clarify the animals' movements and activities.

All of the gathered data is transmitted to the Hunting and Wildlife National Office which collates it, compares it, and evaluates its validity. Most of the correspondents are agents from the State services in charge of the management and protection of natural environments: the Hunting and Wildlife National Office and the Forests National Office, protected areas: national parks, natural regional parks, natural preserves, etc. Observers may also be naturalists, cub scout lieutenants, and, more generally, any person interested who's had specific training.

Indeed, when wolves arrive in a region from which they have been absent for many decades, almost no-one really knows anything about them. The members of observation networks must therefore undergo a training course on which they'll learn the criteria necessary for identifying the signs of the wolves' presence. However, identification is made particularly difficult because of the physiognomic and behavioral similarities between wolves and large dogs – they belong to the same species – and because of the presence of lynxes in many massifs. Quite often it is difficult, with absolute certainty, to decide which one of these three predators a particular clue indicates is present.

Clues left behind by wolves are numerous. Such clues can be the result of visual observations (although these remain relatively rare), such as tracks in the snow (which provide precious information on the animals: their number, their itinerary, etc.). But clues more often result from finding carcasses, excrement, hairs, or from howling.

Signs rarely "talk" for themselves and generally require interpretation. Thus, excrement or hairs do not "say" anything if one cannot perform genetic analysis. Similarly, one needs to have observed a vast amount of prey to have any hope of determining whether a particular animal has fallen victim to a wolf, a stray-dog, or a lynx.

Moreover, the carcass must be found shortly after the attack since secondary predators passing by — such as foxes, wild-boars, or crows — will rapidly smudge the tracks left by the primary predator.

Page 3.11.A

Abandoned Mountain Pastures

The arrival of great predators can cause farmers to abandon mountain pastures that are either difficult to access, covered with dense undergrowth, too steep, or too small to sustain a flock big enough to warrant being guarded. The sheep's departure then translates into a modification of the vegetation and into a colonization of the mountain pastures by pioneer sclerophyllous and ligneous species such as the green alder.

Page 3.11.B_FR

Abandoned Mountain Pastures

All mountain pastures are not equally easy to adapt to the presence of great predators; the results of applying measures for the protection of flocks against great predators will thus vary from one pasture to another. The site's accessibility, its relief – more particularly the presence of ridges and cliffs – its area, and the density of its undergrowth, are all determining factors.

If the pasture is too small, it can't sustain enough animals to justify the costs of hiring a shepherd. If it's covered with too much dense undergrowth, predators can hide in the vegetation, making the shepherd's and the watchdogs' surveillance work that much more difficult.

The absence of roads or tracks suitable for motorized vehicles makes the shepherd's everyday life difficult. It also means the farmer has to ascend by foot to the pastures every day in order to feed the dogs, if they are the sole guarders of the flock.

Finally, because sheep can very easily fall from a ridge when panic-stricken, a very steep mountain pasture with ridges can be extremely dangerous. Traditionally, the best pastures in the Alps are reserved for dairy cattle, leaving almost only difficult pastures for sheep.

Work can be done to improve the pasture sites with the occasional support of public funds. Tracks are opened which provide access to pastures which were previously only reachable by foot; wooded or densely vegetated areas are also cleared in order to improve visibility and facilitate the shepherd's and watchdogs' surveillance work. However, the most difficult pasture sites — that is, the ones where all the previously mentioned handicaps obtain — must sometimes be abandoned: given the conditions, continuing to use them is almost impossible.

The departure of domestic flocks brings with it profound modifications of the flora. At low altitude pioneer shrubs will set in which are then followed by trees. In the Northern Alps, many mountain sides once used for pasturing are now covered with green alders, rhododendrons, or bilberries. And as the flora changes, so do the landscapes and fauna.

A mountain on which grazing has ceased changes in appearance, color and smell; it provides a habitat for different animals and different plants. Some animals that benefited from agro-pastoral practices such as scything, may disappear.

The mountain doesn't attract the same people anymore: while hunters and naturalists can find abandoned or wooded areas interesting, even beautiful, because they provide shelter for

plants and animals which can’t be found on mountain pastures, others, who appreciate open landscapes, find them to be “dirty”, “ugly”, or “neglected”.

Page 3.12.A

Fauna

The wolves' arrival in the Alps is in line with a general process of wildlife's diversification in Occidental Europe. Many species of large ungulates (stags, roe deers, ibexes), birds of prey (lammergeyer, griffon vulture), and great predators are to be found today, even though in the first half of the last century they had either disappeared altogether or become extremely rare.

Page 3.12.B_FR

Fauna

Ever since the Second World War, and even more so since the 1960s and 1970s, a series of developments has caused the augmentation and diversification of great wildlife.

As the activities related to tourism grew more and more extensive in the Alps and at the same time agriculture intensified on the plains, the alpine farming population, which had for centuries formed the essential part of the population in that region, progressively became a minority and, finally, numerically marginal. Areas unfavorable to modernized agriculture were progressively abandoned and became overgrown by dense undergrowth or forests.

A growing section of the society, which became alarmed by the transformation of the natural environment and the rapid disappearance of numerous species, worked for the protection of certain species and areas, notably in the mountain regions. The French Alps now contains three national parks, many natural regional parks, numerous natural preserves, as well as sectors protected by biotope decrees.

Hunting plans which limit the number of animals that can be killed by hunting clubs, have progressively been adopted, although sometimes reluctantly. Apart from the wild-boar, all ungulates are now subject to a hunting plan.

Furthermore, many species were introduced or reintroduced on the initiative of hunters and administrators or protectors of nature. Ibexes, stags, roe deers, mouflons, griffon and bearded vultures, beavers, and wildcats, were all released on various sites and on many occasions. If these operations were not all successful, a good number of them reached the objectives set by the agents responsible for reintroduction, while some even surpassed them.

For all of these reasons, the Alps are clearly more favorable to great wildlife than they were a few decades ago, however landscaped and urbanized they have come to be at the beginning of this third millennium. Species whose numbers were very low, such as the ibex, were saved from extinction; others (like the stag, the roe deer, or the wild-boar) prospered and colonized new territories. Great predators have also benefited: being protected, they mostly feed on wild prey during the summer – doing so exclusively in winter – except in some of the southern alpine regions, where domestic flocks almost permanently stay outside.

The presence of wild species can be underestimated or even ignored when dealing with very discreet animals. Such is the case with the lynx, whose return to many alpine massifs does not arouse the same conflicts as the wolf's. It does not live in packs and forests are its main habitat: in the Alps, it feeds almost exclusively on wild animals. Certainly, their return

annoys some hunters, who fear a decline in roe populations, but it is much less burdensome and has far less consequences for farmers, than the return of wolves.

The spreading and diversification of great wildlife runs counter to the dominant discourse about the erosion of biodiversity and explains why this discourse is so often badly received by local populations. Such facts do not prove, however, that this discourse is false: all species returning to the Alps are not equally demanding and some can adapt to natural environments of very poor quality. Wolves in particular are able to adapt to all sorts of conditions. Thus, their presence is more indicative of a sufficient quantity of food and of their protected status than it is of nature's good state.

Page 3.13.A

Naturalists and Wolf-Howling

One way of locating and counting wolves is to broadcast pre-recorded howling: thinking that it comes from a fellow creature, wolves howl back.

This howling technique, often called “wolf-howling”, is still experimental on the French Alps.

Page 3.13.B_FR

Naturalists and Wolf-Howling

The systematic gathering of signs of the wolf’s presence by networks of observers provides a great deal of information. It is, however, often limited by atmospheric conditions: sometimes too much snow will make it too risky to venture onto the mountain, while at other times the absence of snow will translate into fewer observable tracks, making the observers’ task that much more difficult.

The efficiency of such networks also depends on their members’ availability, which sometimes decreases over the years.

Another technique exists which does not depend on the weather and that requires minimal mobilization. It consists of making the wolves reveal their presence and numbers by themselves. Indeed, wolves communicate with each other by howling – or “singing”, as lycophiles will say – and the broadcasting of pre-recorded howling can provoke them to reply.

In the Haute-Maurienne (Savoy), the first wolf-howling attempts were made with the help of recordings lent by Italian scientists to their French counterparts. Wolves may also answer to imitations of their howling performed by minimally trained humans. One must make sure, however, that it really is the wolves’ replies that one is hearing, and not that of humans pretending to be wolves, or that of other scientists also leading a wolf-howling experiment! Hence, wolf-howling sessions are preferably organized on remote massifs where it is less likely that the broadcasted howling will be heard and answered by humans.

The wolf-howling technique is still experimental on the French Alps and the results produced are compared with data obtained from standard observation practices, together with the results of genetic analyses, in order to assess their reliability.

Page 3.14.A

The Hunter

Through his binoculars, a hunter observes a wild-boar rooting about in a meadow.

Wild-boars, nowadays rather numerous in many alpine regions, constitute much appreciated game for the hunters. However, since they cause significant damage to agricultural lands, they are also the origin of serious conflicts with farmers.

Page 3.14.B_FR

The Hunter

The number of hunters has grown as game has become more abundant and less shy, and as weapons have got cheaper. Many hunters are delighted by the idea of shooting, roes, stags, wild-boars, or mouflons, as well as chamois. The alpine hunter has gone from a state of scarcity to one of abundance; he now has too much to choose from – the total number of kills speaks volumes in this respect.

For a while, a period hunters now speak of as a golden age, game was relatively abundant and the regulations were few.

Plans for hunting were then established which changed hunting practices drastically. These plans changed the relations between hunters, as well as the hunters' relations with animals. A quota was set for species submitted to a hunting plan as well as for hunting societies. Restrictions on age and sometimes gender were applied to the hunted animals. Hunters were required to attach a bracelet to the animal's leg which they would later show to a board of inquiry. Hunting sectors may also be allocated, and teams constituted that go hunting one after the other, in order to avoid disturbing the wild life too much.

Hunting is therefore much more controlled and supervised than it was before, and some, notably the oldest hunters, have lost all interest for it. The modification of the regulations was accompanied by significant changes in the relations between hunters and their relations to animals. While they used to kill any animal they pleased, the goal being to shoot before anyone else, they must now identify the animal, which requires longer periods of observation and sometimes entails the use of a telescope. Good hunters are not the best killers anymore, those being now perceived as "meat-hungry" hunters. Rather, they are the type of hunter that can distinguish, at distance, a male from a female chamois by saying if the horns start from under or above the ears.

Relations between hunters and farmers have also greatly changed: on the whole, they have sharply deteriorated. Not a generation ago, many farmers would hunt while all the hunters also owned domestic animals: so these were not two separated populations. But farmers became fewer and each of them cared for more animals; simultaneously, the younger generation turned away from the family business so that the farmers' workload got heavier and many gave up hunting.

As for the hunters, most of them do not have domestic animals anymore; farmers who hunt and hunters who breed other animals than dogs are now the exception. The two groups have progressively diverged and do not share the same preoccupations anymore. The

augmentation and diversification of the wildlife worries the farmers. Yet apart from when it involves predators, it delights the hunters.

The wild-boar in particular, is a real bone of contention. It is greatly appreciated by hunters, who make sure that the population remains in a relatively flourishing state by not shooting too many animals, whereas it is loathed by farmers because of the damage it causes to pastures and cultivated lands. Even if the farmers can declare the damages and ask for indemnities – funded by the hunters' contributions – the situation remains tense and even sometimes downright confrontational.

To learn more on the subject:

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Dalla Bernadina, S., 1996. *L'utopie de la nature. Chasseurs, écologistes et touristes*. Paris, Imago.

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Page 3.15.A

A Flock's Departure

In the fall, transhumant herders and their flocks leave the mountain pastures.

The animals are transported to the farm by truck; the lambs that have reached a sufficient weight are then sold while the others are fattened in a sheep barn for some time.

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A Flock's Departure

At the end of pasturing season, transhumant herders return to the farm while local farmers remain on the mountains until the arrival of first snow.

The farmers' objective is to leave the mountain pastures with marketable lambs, that is, lambs weighing more or less 35 kg, which represents 15 to 17 kg of meat. Lambs of that weight are then slaughtered and mostly sold to large distribution networks. Some farmers try to develop smaller distribution networks in order to raise their profit margins.

Producers get paid 5 or 6 euros per kilogram of meat, prices varying a lot from one year to the next and according to the meat's quality – lambs bred on mountain pastures often receive a quality label ("Agneau d'Alpage", "Agneau de l'Adret").

Such prices do not provide for a sufficient income and subsidies make for a very significant portion of the farmers' income.

Lambs that did not reach the required weight are fattened in sheep barns before being slaughtered. The presence of great predators can affect the lambs' fattening in various ways: stressed animals eat less, lambs are moved around more as every night they must return to the sheep pen which can be at a distance from the pasture site, and farmers will come back down from the mountain pastures earlier than they planned if the end of the pasturing season is marked by repeated attacks.

Page 3.16.A

Cow Pastures

The best pastures are generally kept for dairy cattle. Milking is done twice a day and shepherds are required to build pens and herd the cattle in. The milk is generally brought down into the valley to be transformed into cheese.

Page 3.16.B_FR

Cow Pastures

In all of the Alps, the best pastures have been kept for herds of dairy cattle. Sheep and goats being less demanding, they are relegated to the most harsh and stony terrain. Raising dairy cattle demands a relatively large number of workers to carry out the following tasks: milking, the installation and moving of electrical fences which pen the animals, and the transformation of the milk into cheese.

The making of cheese, however, is most often done in the valleys: pastoral tracks have been made that enable workers to go get the milk from the mountain pastures and bring it back towards the valleys. Factories on mountain pastures where cheese is still being made have had to comply with standards that require the renovating of the buildings, and, more particularly, of the rooms where the cheese is made. This work has represented a significant investment for farmers.

A few attacks on calves have been listed in France, but bovines remain unharmed on the whole by the great predators, and the arrival of wolves has not altered practices. This is something the ovine farmers sometimes regret. For, as the cheese and milk industries are better organized and receive more financial support than the ovine industries, ovine farmers think that if the bovine herds had suffered more damages, this would have made it easier for their demands to be heard.