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**Forestry Issues and Disputes in Provincial Regions During the 19th Century:
The Example of the Lure mountains (France)**

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Abstract

The 19th century in France marked the veritable arrival of forestry management. Two important dates mark the advent of the organisation of the forest industry: first in 1824, with the creation of the Forestry School in Nancy, and then in 1827 with the adoption of a forestry code specifying to what extent the forests were to submit to the forestry regime. Through the 19th century, the forestry administration crystallised the resentment of village communities of the Lure Mountain through the increasingly strict management established over activities linked to the forest. Almost all foresters throughout the century, with a few exceptions (Kalaora, Savoye, 1991)¹, claimed they were the ones who knew the truth and represented collective interests against local populations that they judged to be ignorant and not very concerned with the future. The policy of Restoration of Mountain Terrain (RTM) that was put in place in the Lure region near the end of the 19th century marks the outcome of such a process. It reflects the power of the centralised body of forestry engineers over forest management in France and the decline of local communities, weakened by a massive rural exodus and by a succession of economic crises. The forest space therefore crystallises through these decades of dispute between local and central power.

Résumé

Le XIXe siècle marque en France le véritable avènement de l'aménagement forestier. Deux dates importantes marquent l'avènement de l'aménagement forestier : 1824 avec la création de l'École forestière de Nancy, et 1827 avec l'adoption du code forestier précisant les règles de soumission des forêts au régime forestier. Au cours du XIXe siècle, l'administration forestière a cristallisé les ressentiments des communautés villageoises de la Montagne de Lure par l'encadrement de plus en plus strict qu'elle a établi sur l'ensemble des activités liées à la forêt. Le corps des forestiers, à quelques exceptions près (Kalaora, Savoye, 1991), témoigne tout au long de ce siècle de sa conviction de détenir la vérité et de représenter l'intérêt collectif face aux populations locales, jugées ignorantes et peu soucieuses de l'avenir. La politique de Restauration des Terrains de Montagne (RTM), qui s'est mis en place sur Lure à l'extrême fin du XIXe siècle, marque l'aboutissement d'un tel processus. Elle reflète la main mise du corps centralisé des ingénieurs forestiers sur la gestion forestière en France et le déclin des communautés locales, fragilisées par un exode rural

massif et par une succession de crises économiques. L'espace forestier cristallise ainsi, tout au long de ces décennies de conflits, les oppositions entre pouvoir local et pouvoir central.

Key Words

Forest; Forest Management; Landscape Dynamic; Mediterranean Forest

Mots clés : forêt, gestion forestière, dynamique de paysage, forêt méditerranéenne

Introduction

During the 19th century, many advances were made in forestry in France. Firstly, from a quantitative perspective, with the growth in land cover which coincided with important steps towards reforestation (the Landes of Gascony, the Champagne and Sologne regions...), then from a qualitative point of view, with the development of a modern science of forestry.

However these advances were not very well accepted by rural communities who opposed different forms of resistance described by J.C.Scott² as "Weapons of the weak".

The context in which these conflicts between rural communities and the forest administration occurred during the 19th century was completely different from that of the revolutionary period. Following the repeal of Colbert's edict of 1669 during the French revolution, all the landowners (public, private or forming a community) were allowed to manage their forests and sell them as they wished. For the following thirty years, the Government had no direct control over most French forests.

In 1824, with the creation of the Forestry School in Nancy, and in 1827 with the adoption of a forestry code, the French government took firm control of the forests once more, in particular those belonging to rural communities and that were forced to come under the forestry regime.

This political will was widely supported by foresters, in particular by two theoreticians of modern forestry, Lorentz and Parade (1884)³, professors at the School in Nancy. This new modern conception of forestry was based on the absolute determination to transform the forests into regular timber-forests, in spite of the wishes of a small minority of foresters (Puyoo, 1996)⁴, and was accompanied by the systematic denigration of forest management in the hands of local peasantries.

At the same time, this new takeover of rural community forest management by the French government was greatly appreciated by those in favour of the reforestation of the mountains, such as the economist Blanqui, the civil engineer Surell, and many scientists (Humboldt, Arago, Michelet etc.).

Nevertheless, despite the support of the French politicians and scientists for this new conception, the 1827 Forestry Code was unevenly implemented and appreciated. Whereas the theories developed in Nancy were implemented in the large regions in the north of France, the Paris Basin and the North East, the outlying regions were very much opposed to the dominant model (Arnould *et alii*, 2004)⁵. The reasons for this conflict were largely brought about by the discrepancy between a technical model, elaborated by the engineers at Nancy, and the ecological, economic and social realities that are not easily compatible with such categorical models.

Throughout the 19th century, the peasant economy in the outlying regions was based on multifunctional uses of the forest, which were incompatible with the new more rigid model of forestry.

The Lure Mountain, which is situated in the Southern Alps, 100 km north of Marseille, is a typical peripheral French area where such conflicts between peasants and foresters occurred throughout the 19th century. In this mountain area, which is a kind of climate

transition between Mediterranean and Alpine regions (Simon, 2000)⁶, the owners of the forest were mainly communes. Here the peasants resisted the implementation of the 1827 Forestry Code and the principles of modern forestry. Taking the example of the Lure Mountain, an area representative of the provincial backcountry, we can examine the risks and the conflicts involved in the subjection of communal forests to the forestry regime. How did the forestry administration justify the necessity of bringing this peasant forest under its authority? What were the consequences for the traditional agricultural, sylvicultural and pastoral system in this mountain landscape? Did the new regulations concerning the forest help to reenergise the peasant economy in the Lure region or did they adversely accelerate the failure of a system of subsistence already on the decline? A historical analysis of these forestry conflicts underlines certain ongoing conflicting aspects, inherited from the 19th century.

Fig. 1. Lure: a Mountain of Southern France



1. A Mythical Deforestation

In the 19th century, in order to justify the subjection of communal forests to the forestry regime, the forestry administration largely relied upon the theory of the generalised clearing of the mountains.

The book published in 1840 by the engineer Alexandre Surell⁷ had an immediate impact, as did other publications such as those of P. Demontzey. In their works they showed that, in mountain areas in the southern parts of France, systematic forest clearings were responsible for severe damage due to floods and landslides. It is true that certain Alpine mountains were actually cleared, notably in the grazing lands of transhumant flocks and herds in Ubaye, but in what state was the Lure Mountain? Were the forests entirely ruined, had they been reduced to nothing but a few scattered shreds? Or did they still form high quality forest areas?

1.1. Forest clearing in the Southern Alps: contradictions between the perceptions and discourse of foresters and rural communities

Before looking at historical sources on the state of the forests, it seems necessary to start by considering the contradictions between forestry engineers and peasant communities, better to understand what was at stake behind the question of deforestation. During the 19th century, forestry engineers continued to complain about the deteriorating state of the forests in the Lure region, which they attributed to incompetent communal organisation, to the “abuses” perpetrated by farmers, and the illegal logging done by certain inhabitants. As shown by T.L. Whited⁸, “Most important in the present context, foresters named alpine peasants the primary, if not the only, agents of deforestation”. Though certain acts most likely existed, they did not seem to have caused the damage mentioned above, as also shown by T.L. Whited: “forests had become profoundly degraded by the nineteenth century but far from denuded”. Forestry engineers did not contest this fact. While denouncing the damage done to forests, they were forced to recognise the silvicultural utility of the lands in question. However, to defend this, they pointed out the large number of oaks and beech trees and the fact that the latter, as we well know, can only be sustainably implanted in relatively dense forest areas. It was thus for this reason that in 1837, when the commune of Mallefougasse opposed the subjection of its forests to the forestry regime, forest security demanded the intervention of the *préfet* (administrator of a French *département*). He justified his demand by pointing to the excellent condition of the communal forests of Mallefougasse, composed of high quality pine trees and a considerable number of old white oaks spread across the area and which it was necessary to preserve. On December 11th, 1839, the *préfet* of the Lower Alps region ordered that these forests be placed under the control of the forestry regime⁹. The position favoured by the foresters is centred on a contradiction meant to criticise the action of village communities as well as the resulting deterioration, while at the same time asserting the quality of the resource and the necessity of a rational exploitation.

The conclusion of the municipal councils, which shared the same position as the communes, equally reflects the contradictions inherent in these village communities. They discredited the thesis of deterioration due to the effects of grazing, while highlighting the insufficient revenues obtained from these forests for the communal budget, and therefore, from a certain point of view, their mismanagement. The municipal councils criticised the modes of management put in place by the forestry administration using more or less pertinent arguments. A too dense forest cover would prevent the germination of seeds and therefore the regeneration of the forest. The presence and logging of large trees would be contrary to the renewal of the forest due to the damage caused by their felling. It was important for village communities to point out the healthy state of the communal forest while at the same time refusing its exploitation in order to insist on its economic role as grazing land for herds.

The control of forest management is at the heart of the contradictions peculiar to each group. This control was vital for village communities looking to preserve a mixed exploitation of the forest in which pastoralism maintains an essential role. But it was also a major risk for the forestry administration which wanted to impose a mode of organisation of forest resources giving priority to lumber production.

1.2. The situation of Lure forests in the 19th century: a still thickly-forested area

Over and above these contradictory points of view, in what condition were the forests of the Lure Mountain during the 19th century? In 1784, in his book *Histoire naturelle de Provence*, the famous botanist Darluc devoted a large section of his work to the Lure Mountain¹⁰. His description indicates that this mountainous region was covered by thick forests composed mainly of fir stands on the northern side (contrary to what seemed to be noted in Cassini’s map¹¹). On the southernmost side, he describes the terracing of the Lure

landscape by alternating “sterile land” near the bottom of the mountain, oak and beech forests with small sections of pine trees around the middle area, along with grazing lands at the top. Were these beautiful forests, present on both sides of the Lure Mountain at the end of the 18th century, worn away or partially eliminated during the following century?

Contrary to the image of a damaged forest developed by 19th century forestry engineers, the documents available at the archives in the *département* of Digne allow for a more qualified description of forestry conditions. We can rely notably on communal archives pertaining to the sale and harvest of wood. The choice was made over six years between 1856 and 1909 (Tab.1). All sales and harvests were authorised by the forestry administration and by analysing them we can evaluate the importance of forestry resources in the Lure Mountain during the 19th century.

Table 1 : Logging in Lure Mountain during the second part of the 19th century (from 6 test years)

Communal District	Locality	Date	Trees	Surface (ha) or number of trees	Kind of stand	Other information
Cruis	Combe de l'Ours	1856	Oak, beech	6.26 ha	Simple coppice	
St Etienne	Canton de la Réserve	1856	Beech	250	80-100 years old	
Valbelle	Canton de la Coste	1856	Oak	3.18 ha	Simple coppice ; 25 years old	
Noyers	Canton de Lure	1856	Beech	600	80 years old	Unsold 53-55
Cruis	Canton du Défens	1861	Beech	600	80-100 years old	Unsold 59
Cruis	Canton de combe de l'Ours	1861	?	5.5 ha	Simple coppice 26 years old	
Noyers	Canton de Lure	1861	Beech Beech	250 250	80 years old 80-120 years old	Unsold 59
Valbelle	Canton de Coste	1861	Oak	3.72 ha	Simple coppice de 26 years old	
Valbelle	Canton de Lure	1861	Beech Maple	249 1		
Valbelle	Canton de Lure	1861	Beech	783	80-120 years old	
Cruis	Canton du Défens	1888	White oak and beech	5.96 ha	Simple coppice	
St Etienne	Canton de la Montagne	1888	Beech	473	80-100 years old	Able to produce 45 m3 of timber and firewood
St Etienne	Canton de la Montagne	1888	Beech, white oak and pine	82 ha	Coppice of 20-30 years old	
Peipin	Canton de Banastier	1888	White oak	8.12 ha	Coppice of 27 years old	
Peipin	Canton du trou du loup	1888	White oak and beech	5.37 ha	Coppice of 25 years old	
Valbelle	Canton de Lure (limite de la crête-commune de Cruis)	1888	Beech fir other trees	1051 194 7	80-100 years old	
Noyers	Canton de la clapeyrie	1888	Beech and white oak	39.31 ha	Coppice of 45 years old	2500 young beech reserved
Valbelle	Canton de Lure	1901	Beech		80-120 years old circumference 60-200 cm	
Noyers	Canton de Lure	1901	Beech		80 years old	980 beech reserved
Cruis	Canton de crouzette	1901	Beech and oak	5.49 ha	25 years old	
Cruis	Canton de grand Peynier	1901	Beech, oak and other trees	16.88 ha	100-150 years old	Trees reserved
St Etienne	Canton de la montagne de Lure, au nord de ND de Lure	1901	Beech and other trees	644	Circumference : 60-160 cm	
Valbelle	Canton de Lure chemin de la croix	1904	Beech	769	Circumferences 60-240 (mostly 80-140 cm)	
Noyers	Canton de Lure	1904	Beech	10.03 ha	80 years old	980 beech reserved
Cruis	Canton de la Crouzette	1904	Oak and beech	5.70 ha	25 years old	292 young oak reserved
Cruis	Canton du grand Peynier	1904	Beech	12.07 ha	40-180 years old	Trees reserved
St Etienne	Canton de Lure ; combe de Chavalet	1904	Beech	11.28 ha	32-182 years old	Trees reserved
Valbelle	Canton de la fayée près de la crête	1909	Beech	12.6 ha	50 years old	Trees reserved
Valbelle	Canton de la fayée près de la crête	1909	Beech	12 ha	57 years old	
Cruis	Canton du Défens	1909	Beech	5.95 ha	22 years old	Trees reserved
Cruis	Canton du grand Peynier	1909	Beech and fir	12.9 ha	40-180 years old	Trees reserved
St Etienne	Canton hors cadre	1909	Beech	2854	440 trees with a circumference of 60 to 140 cm	
St Etienne	Canton de la Réserve	1909	Oak and beech	5.98 ha	24 years old	

Source : Archives départementales des Alpes de Haute Provence, Digne ; Fond communal ; Liasse E DEP 229.

The main species exploited are beech and oak. These forestry species still covered large areas of land in the mountain and supra-Mediterranean areas in the Lure region. The quantity felled, often more than a hundred thousand timbers, testifies to the relative abundance of this

resource during the period in question. There is no obvious reduction in the quantities sold, which might indicate a decrease in the number of trees.

The areas where trees were felled reflect the utility of the entire mountain. The principal rural felling districts belonged either to lands situated on the outskirts of village areas, or to lands situated at altitudes between 1000 and 1400m on the lower limits of summer grazing pastures. The cuts are usually present on the communal territory of both sides of the mountain. The amount of high altitude fir plantation felling was however rather low, because the area was difficult to reach.

The most important aspect is in the height and age of the trees cut. The majority of portions for sale concern trees at least eighty years old, between eighty and a hundred and twenty for the most part. Circumferences above 60cm and reaching up to 240cm are mentioned which, given the ecological conditions, indicate the advanced age of the trees. The image of a damaged, overexploited forest, devoid of old trees is therefore largely debatable.

The archive documents also show the importance of the handling of seed forest and coppice with standards. However, compartments cut from short rotation coppice are rare. Coppice must have certainly existed and been trimmed regularly for kindling wood or to heat kilns, but it was not a standard practice. This points to a diversifying control of stands, leaving room for long turn over treatments, capable of producing lumber.

Some documents¹² suggest that forestry practices not unlike gardening existed, with small parcels of land where different species were grown. When these parcels came up for sale, it is often mentioned that there were considerable reserves of oak, beech, and fir trees of varying ages and sizes. The renewal of the forest seemed assured in the majority of exploited rural districts.

1.3. A telling sign: the boundaries marks of the Peipin commune

Another type of source, boundary adjudication, provides a clearer picture of the landscape of the Lure Mountain during the 19th century. In the official documents concerning the delimitation of communal woods, established for the most part between 1830 and 1850 by the forestry administration, the boundaries were associated with a brief synopsis of the kinds of plant forms/vegetation or the modes of land use. The partitioning of the forests of Péipin, undertaken on December 9th, 1839, is a perfect illustration of the composite character of the landscapes of the Lure region during the 19th century¹³. According to this document, the communal landscape was dominated by the forest (Tab.2) and out of a total of 141 landmarks, more than half corresponded to wooded formations (53.2% of landmarks). The stands were composed of high quality forests (32% of landmarks), and secondly of coppice (21.3% of landmarks). The white oak tree was the most clearly represented forest species, accompanied in places by beech and box trees. The other landmarks were placed in unproductive lands and farmlands. Despite this situation, the woods were not absent. Numerous unproductive lands or farmlands were associated with either woods or shrubs (36.2% of landmarks). An analysis of this partitioning reveals that the landscape belonging to this Lure community was made up mainly of forests. Only 13.5% of landmarks did not make reference to wooded formations.

The written archives definitely pointed to the existence, in the 19th century, of a dense forest cover composed in part of high quality stands. Mountain districts (*cantons*), on both the southern and northern sides, furnished quality wood during this period. How then can we explain the image of damaged forests conveyed since this era? Whether it involves communes or the forestry administration, the description of the forests served very precise interests in which the goal is to maintain control over the management of the forest area. These diverging points of view were the reflection of a bitter battle for the acquisition of forest area. It is

precisely because the resource was still abundant that disputes arose between foresters and peasant communities.

2. The End of a Peasant Forest

At the beginning of the 19th century, the forest seemed closely integrated into the economy and village society of the Lure mountains. It influenced both the everyday life and the imagination of the peasant communities who carried out the most part of their activities in the area. The adoption of the Forestry Code in 1827 and the domination of the forestry administration over communal forests during the 19th century caused profound changes in the traditional modes of organisation in this wooded mountain. Did the rationalisation put to use in the organisation of the forest allow for the preservation of the agricultural, sylvicultural and pastoral model in the Lure mountains, which was based on a fragile equilibrium between limited resources and a multi-functional usage of forest space?

2.1. The central situation of the forest in the agro-sylvo-pastoral system of the Lure Mountain in the 19th century

Backcountry forests in the Mediterranean mountains were long used as grazing pastures for herds. From the Middle Ages until the 19th century, underwood grazing was a widespread activity in the Provence Mountains¹⁴ and pastoralism played an essential role in the rural economy¹⁵. The Lure Mountain was no exception. Like elsewhere in the Mediterranean, the forests of the Lure region were areas of wool, milk and meat production, before becoming places for the production of wood. The introduction, in the 19th century, of such new players as forestry engineers had major consequences for the practice of underwood grazing. Before the French Revolution, peasants had the right to bring their herds into the Lure mountains in return for a tax paid to the Lord (*seigneur*), as is attested by a document from 1698 concerning the inhabitants of Noyers¹⁶. After the Revolution of 1789 and the abolition of feudal rights, rural communities were relatively autonomous in the management of their forestry resources, notably in the exercising of their right to allow their animals to graze.

For peasant communities, the forests of the Lure region were multi-functional spaces in which they were able to extract other non-negligible resources. At Saint-Etienne-les Orgues, the gathering of medicinal plants was a very lucrative activity for herbalists and peddlers of medicinal plants of the commune who circulated their beneficial herbs across France. In 1798 and 1799 there were 192 peddlers of medicinal plants¹⁷ in this commune with a population of 1036. The inhabitants of the Lure region also picked lavender for perfume¹⁸ and absinthe for the fabrication of alcohol¹⁹. In addition the resources of the forest provided nutritional supplements for the peasants (wild asparagus, mushrooms and berries), and for their herds (acorns, beechnuts, young twigs)²⁰. They collected dead leaves for litter in the sheepfolds. Dead leaves and humus were also an important source of fertiliser for cultivated lands because of the poor quality of the soils and the restrictions imposed by the climate. Peasants collected dead wood for heating, stakes for farming and crop growing purposes and boxwood for the making of agricultural tools²¹. The extraction of oak wood provided charcoal burners with the necessary material for the production and trading of charcoal²².

It was, finally, the forest which provided the often strongly indebted communes with financial revenues. The financial difficulties of the communes were mentioned right from the beginning of the 19th century. They were in part linked to the loss of revenues from grazing rental contracts for the transhumant herds. Logging therefore became the only means for the villagers to earn money for the community

2.2. Fighting to keep customary rights

Between 1790 and 1827, most forests in France came under the general rules of land law. However, the Napoleonic Civil Code is based on an exclusive conception of the property. Customary rights are considered as assertive rights and each landowner may refuse them. Revolutionary law thus opened the door to a negation of customary rights in forests. The passing of the Forestry Code in 1827 “confirms this new conception of the property”²³, and marked a major turning point.

Article 110 of the Forestry Code forbade grazing in all French forests, except in the mountainous backcountries where grazing constituted a vital activity for peasants²⁴. In practice, forest grazing was more or less tolerated rather than authorised by the forestry administration. In order to bring their sheep into the forest, the communes had to ask permission from the administration which allowed grazing only in scrubland or forests which were sufficiently developed, so that herds were not a threat to their conservation. The administration limited the number of animals allowed to graze per hectare and imposed on the communes the payment of a yearly tax per head of sheep. In the entire Lure mountain area, the pastoral charge was not supposed to exceed two animals per hectare. However, the tax varied slightly from one commune to another depending on the condition of the forests: 0.10fr per head in the Commune of Valbelle, but reached 0.25fr per head in the Commune of Saint-Etienne-les-Orgues²⁵.

In the Lure Mountain, the limitations imposed on grazing rights were deemed intolerable by the peasant communities for numerous reasons. Not only did they deny an ancestral right in the forests owned by the communes, but they significantly weakened mountain farming, already threatened at this time by competition from Algerian sheep and wool from Australia²⁶. During the 19th century, the new rules put in place by the forestry administration in regards to grazing caused difficulties for the pastoral economy.

The protests voiced by the communes concerned the regulation of forest grazing²⁷. The diminution of grazer resources following the closing of the forest cover harmed those farmers whose grazing land was therefore greatly restricted. The deliberations of the communal councils vigorously criticised the policies of the forestry administration. Many arguments were brought forward by the communes: the uselessness of the natural regeneration wanted by the administration, the calamitous effects of concentrating herds in the areas left open to grazing, the sheltering role of the forest for herds and shepherds in case of storms and the lengthening of the time necessary to reach the communal lands located at the summit²⁸. The tax on herds and flocks also led to much criticism. The forestry administration justified the tax by citing the damage caused by herds in the forest. This argument was contested by the Cruis municipal council, which in 1905 spoke of the healthy state of the repopulation of the forest, which meant this tax was unjustified²⁹. The surveillance of the forests by the forestry administration was also a source of conflict, the communes preferring to entrust this task to a communal warden.

If we take for example the commune of Valbelle, for which the archives are very precise, we see a large reduction in livestock at the end of the 1870s, followed by a slight rise until the First World War before the numbers fall considerably once more. These statistics, collated from taxes received on forest grazing, indicate that pastoral pressure dropped during the 1880s without, according to the archives, any alleviation on the limitations imposed on this type of grazing. Thus the request for grazing made by the commune of Valbelle in the forest of Costes was rejected by the forestry administration. Following a report established by the forestry engineers, the *préfet* of the Lower-Alps region considered that the regeneration of stands might be threatened in that part of the forest of Costes which had been exploited between 1926 and 1929. He firmly rejected the request from Valbelle, writing that the inhabitants of the commune should take their herds to graze elsewhere³⁰. On the 7th of November 1937, the commune of Valbelle reformulated its request in a more dramatic tone,

underlining the fact that breeding was the main source of revenue for the inhabitants of the commune and that certain villagers, ruined by the unjustified restrictions on their grazing rights, might be forced to leave³¹.

Limitations on the customary rights did not only concern grazing rights but, more generally, all local practices and land-use. The forestry administration could not completely forbid these activities without seriously harming the mountain's economy. The authorisation given to allow the removal of trees from the forest brought with it a number of provisions aimed at limiting the exercise of these customary rights and at reducing the presence of peasants in the forest. On the 1st of January 1883, the forest warden of Forcalquier authorised the village communities to collect dead leaves, dried herbs, jennet, heather and box in the forests of the Lure Mountain. While recognizing the need for the peasants to do this, he drew up a list of rules and prohibitions to reduce the amount of paltry forest products that could be taken away³². Picking was only allowed in areas designated by the administration (often these areas were difficult to reach); the use of cutting instruments was forbidden; dead leaves could only be gathered by hand or with a broom, but not with a rake; and the removal of dead leaves and other plant matter could only be done by carrying the load on one's back or with muzzled animals. Such restrictions rendered such fastidious tasks even more difficult.

Requests to log addressed to the forestry administration in order to finance rare expenditures or to alleviate the commune's finances were often rejected. However, during natural disasters which produced serious damage, the communes did not have any other means to pay for repairs. The archives from the years 1850 to 1890 show the frequency such requests to fix a bridge, repair a road, rebuild a building after a flood or a storm, or to build a school³³. Faced with the large number of requests for logging, the forestry administration found another pretext to bring the forest under its authority.

2.3. A territorial conflict: the question of forest ownership

In order to assure its authority and to implement new rules of management, the forestry administration had no choice but to delimit the communal forests, which was at the origin of many disputes. The task was immense. Despite the progress made by the land registry, the communes often had only an approximate idea of the borders of their forests, in addition to which existed many small pieces of land, meadows or woods belonging to private owners. The uncertainty even extended to the delimitation of the Lure Mountain, which gives an idea of the difficulties encountered by the forestry administration.

Thus, in 1812, a lawsuit was brought in Aix-en-Provence, where the inhabitants of the commune of Noyers, located on the northern side of the Lure Mountain, sued a man named Esseric, also an inhabitant of this commune³⁴. The latter claimed ownership of the entire northern side of the Lure Mountain, saying that he had bought it from the Lord (*seigneur*) of Noyers during the revolutionary period, on March 28th 1795. The inhabitants contested this, asserting that Esseric's property only extended to the Pellegrine Mountain, located between the Jabron River and the present-day Lure mountains. The entire case was based on the mountain borders and on the appellation of the Lure. For Esseric, the name Lure referred only to the southern flank of the mountain, facing towards the villages of Cruis and Saint-Etienne-les-Orgues, while the Pellegrine Mountain was composed of all the lands from the summit to the valley. For the inhabitants of Noyers, the separation between the two mountains lay along the stream that today separates Pellegrine from Lure, in the place called "Combe Sanguinette". The perception of the landscape is conclusive here: from the bottom of the valley, the Pellegrine mountain hides the summit of the Lure and designates, for some witnesses, all the lands situated south of the Jabron. For the inhabitants of the village, relying on their experience of the mountain, there is no confusion possible and the customs in use for

centuries clearly distinguish the seigniorial pasture areas of Pellegrine and the communal lands of the Lure region.

Whatever the validity of the two positions, such a dispute underlines the uncertainties that existed regarding ownership of lands and their demarcation. Such disputes occurred throughout the 19th century. In 1838, in the commune of Cruis, the official report pertaining to the demarcation of communal forests speaks of “a state of confusion of diverse types of properties ending in a kind of joint ownership”³⁵. The commune continued throughout the century to contest the boundaries established by the forestry administration, the latter complaining of the usurpation by the commune of forest area belonging to the public domain. The demarcation disputes also opposed private owners in the commune and once again they concerned the demarcation of communal forests up until 1870-80. These uncertainties, and the disputes that they engendered, were an opportunity for the forestry administration to assert its authority on forest management, pitting its know-how and knowledge against the disorder and the carelessness which, in its opinion, characterised the practical management of the communal villages.

This forest conflict highlighted the question of land appropriation in this mountainous area, and the question of the future of local communities: “The moral problem, rather, at the heart of restoration in France was its exclusion of alpine society; indeed, it became a practical problem as well for the Eaux et Forêts” (Whited, 2000)³⁶.

Not only was there local resistance to the kind of management of the mountain chosen by the French State, there was also conflict between two kinds of foresters “those who wanted to manage the land and those who wanted to take care of the land” (Kalaora B. and Savoye A., 1991). The first group wanted to enforce the national rules of forest management, the second preferred to adapt the rules to local realities.

3. The Conflicts and Their Modern Day Repercussions

Throughout the 19th century, the forestry administration asserted its authority over the wooded spaces of the Lure region. Communal forests were subjected not only to the forestry regime but, more generally and more completely to the forestry administration, impacting the conflict between two conceptions of how to use and manage mountainous areas.

3.1. The idealized forest of the forester engineers

The origins of these conflicts were to be found in two diametrically opposed views of the forest. For the peasant communities, the forest was a familiar, nourishing space, which contained their main sources of subsistence. Over the centuries they developed a practical mode of management, controlled by municipal ordinances, some of which dated from the Middle Ages. Using their intimate knowledge of the area, they developed an economic model based on varied uses of forest resources. On the other side, the engineers had an idealised vision of the forest which, far from being a simple space of production, had for them a more important function, that of the conservation of the areas upon which the future of the nation depended. Taking up the lead provided by the work of the geologist George Surret on mountain torrents in the Higher-Alps⁷, which attributed the damage caused by torrential processes to deforestation, the engineers considered that the forest played an essential role in the maintenance of broad ecological equilibriums³⁷.

In the Lure Mountain, natural catastrophes of the 19th century indirectly endorsed the thesis upheld by foresters on the protective role of the forest. Indeed, climatic variability in the second half of the century was the cause of numerous catastrophic events during the years 1839-1890 (floods, mudslides, severe droughts, etc.) often mentioned in the archives. The

forester wanted to be the guarantor of the public interest: by improving the quality of afforestation, he plays a role in the “security of the villages”. “For the foresters influenced by engineering and trained in the techniques of forestry and forest management, mountains assumed fixed, functional qualities that could be maintained only by state intervention in order to avert natural catastrophes” (T.L. Whited, 2000)³⁸. He therefore works for the community as a whole and sets himself up against communes concerned only with their own immediate interests: “The municipal council always wants more. All for the present, nothing for the future”. He vigorously criticises the modes of practical management of the forests by peasant communities³⁹. The science of forestry and the knowledge that comes from it are the only guarantees of good management of the entire area. D. Ponchelet quotes A. Blanqui, an economist, official representative and partisan of the theories advanced by the foresters: “science has proved that the real way to fight against floods and to stop them is to plant a “crown” of trees at their source.”⁴⁰

3.2. Rational and authoritarian forest management

The idealised vision of the forest, presented as a forest able to heal all ecological imbalances, is shown through the adoption of an abstract conception of forest planning which can be applied generally to the entire French territory, without taking into account local particularities. This attitude will be criticised even within the forest administration (Kalaora B.; Savoye A., 1991). In the Lure Mountain as elsewhere, the conversion of peasant forests into seed forests or into coppice with standards is the only possible mode of management for engineers from the Forestry School of Nancy. The application of this dogma was accompanied by an unbridled authoritarianism towards the local communities (Kalaora B.; Savoye A., 1991). For all that concerns the management of the stands, the forestry administration considered itself the sole competent authority, the know-how of the foresters could only be explained with difficulty to populations that were implicitly considered as intellectually deficient. Generally speaking, it is the communes that “do not understand the motives of the foresters”, while “the planning is in accordance with the interests of the community”⁴¹.

The forestry regime imposed by the administration consisted in a lengthening of the duration of rotation, a progressive conversion into seed forest or coppice with standards of existing stands, and the goal of natural regeneration, which required that these zones be kept free from grazing. These forestry norms explain the foresters’ insistence on demonstrating why such lands should be used only for forests. Subjection to the forestry regime was accompanied by an important restriction on the customary rights in the forest. Grazing was therefore strictly regulated and more often than not forbidden, since it was incompatible with natural regeneration. In 1876 the forestry administration recorded the damage caused by a passing herd of 2000 on parcels of land in the process of being regenerated⁴².

These few examples do not cover the long list of disputes that opposed the village communities of the Lure region and the forestry administration. They suffice to show, however, that the subjection to the forestry regime put in place in this region from 1830 to 1840 was perceived by the peasants both as an interference by the foresters in the life of the commune and as an obstruction to the use of their resources. In a period of crisis characterised by financial difficulties in the communes, by a rural exodus, by a succession of damaging climatic episodes, the guardianship of the forestry administration over wooded areas was not easily accepted.

These examples also indicate a lack of dialogue between the administration and the village communities, which provoked conflicts that were particularly long-lasting. When, in 1894, the communal council of Cruis renewed its request for authorisation to travel through the forest in the same terms as fifty years previously, the forestry administration

acknowledged that “this request is not new, it has already been submitted but has always been rejected”⁴³. The obstinacy of the communes echoed the totalitarianism of the forestry administration which, more often than not, considered local claims as unjustified and made no further comment. The justifications, when they existed, appeared superficial at best: “the forests must be subjected to the forestry regime as they are composed of forest species”⁴⁴. Pointless dialogues and stonewalling therefore characterise the relations between the administration and the village communities during the 19th century in the Lure Mountain.

3.3. The forest conflicts: one aspect of rural decline

The mountain economy of the Lure region was severely weakened by the restrictions imposed by the forestry administration. Justified or not, the limitations imposed on the customary rights penalised the peasants heavily, and in particular the poorest who could not survive without the forest’s resources. The decline of the agro-sylvo-pastoral system during the 19th century cannot be blamed entirely on the actions of the forest administration. The causes are far more complex and include both local and regional factors (competition from the lower lands) and also international ones (development of international trade and imports of low-cost products)⁴⁴.

The demographic decline is surely one of the more tangible consequences. Until 1840, the Lure mountains were a thriving community. In 1841, there were 1274 inhabitants in Noyers, almost 800 in Valbelle, more than 600 in Cruis and over 1300 in Saint-Etiennes-Les-Orgues⁴⁵. The northern side of the Lure Mountain was affected by the rural exodus in the period 1841-1851. During this decade, Valbelle and Noyers lost 176 and 71 inhabitants respectively. On the southern side, the majority of communes were affected by the demographic decline a bit later, during the next ten years. However, like on the northern side, the population decline in Saint-Etienne-les-Orgues began in 1840 and continued during the entire second half of the 19th century. Its population fell from 1326 to 1176 inhabitants between 1837 and 1847, then dropped to 930 inhabitants in 1887⁴⁶. The commune of Saint-Etienne-les-Orgues thus lost a third of its population in half a century. From 1890 onwards the jobs created by the reforestation of mountainous terrain (RTM) marked a pause in the demographic decline in the communes of the Lure region. This break, however, was of short duration and between 1841 and 1911, the commune of Valbelle lost about 77% of its population (267 inhabitants in 1911). The rural exodus continued during the 20th century, creating a great loss of manpower in the 1960s. In 1962, there were only 87 inhabitants in Valbelle and 236 in Noyers. Over a period of one hundred years the very populous Lure mountain region of the 19th century was thus transformed into an empty territory.

The decline in population, already significantly advanced during the second half of the 19th century, brought with it a decrease in agricultural activity and traditional forms of organisation of the forest. The abandoning of agricultural lands and the lack of upkeep of the forest by the peasant communities favoured gully erosion of the neglected mountainsides. The increase in torrential processes was aggravated during the period 1839 to 1879 by a rise in the variability of inter-annual rainfall, causing in alternate years intense rain and floods (1882, 1886), some years being very unprofitable⁴⁷. Another unexpected consequence of the demographic decline and of the destructuring of the traditional agricultural, sylvicultural and pastoral system was the return of the wolf, which is a threat for herds. A decree issued by the prefecture on December 11th 1857 confirms the return of wolves in the Lure Mountain⁴⁸. The numerous hunts organised to kill them remained ineffective. In these forests where pastoral pressure led to a densifying of vegetation in the undergrowth and in this damaged mountain landscape, the predators had no trouble finding places to hide and where it was difficult to drive them out. From 1867 onwards, following a request presented by the commune of Saint-Etienne-les Orgues, the *préfet* authorised the extermination of the wolves by means of

poisoning. However, this radical method proved to have little effect. In 1881, the mayor of Saint-Etienne-les-Orgues once again indicated to the *préfet* that wolves had been seen in his commune and that they had devoured many sheep⁴⁹. Poisoned bait was put out once again, despite the risks to local wildlife.

During the second half of the 19th century, an imbalance developed between the peasant communities of the Lure Mountain and their forest territory. New rules of forest management and the restrictions of customary rights imposed by the forestry administration played a role in accelerating the decline of a mountain economy already threatened at this time by agricultural advances in the lower plains and by competition from foreign products. Forestry engineers applied a model that proved ill-adapted to forests in this mountainous backcountry. In a forest formerly developed for human needs, demographic decline along with the disappearance of traditional forms of organisation resulted in an aggravation of torrential processes on the sloping mountainsides which were not taken care of by the peasants and a densification of the undergrowth where the forest had been best preserved, which favoured the return of wolves and an increase in the long-term risk of forest fires. The reforestation of mountainous terrain undertaken from 1890 did not, in the end, bring any alternative to the peasant forest. Conceived in an effort to fight against torrential processes and floods, reforestation did not offer any opportunity for economic regeneration. Affected by the rural exodus from 1840, the Lure Mountain was drained of its population and became, in half a century, an underused space.

In retrospect, we can consider that the confrontations between foresters and peasants in the 19th century reflected a certain sense of modernity. Indeed, the disruption that occurred during the 19th century in the relationship between man and the forest made possible the creation of new rules of management and planning that have endured until today. The establishment of the forestry administration was part of a vaster political project, that of finishing with the structures of the Old Regime (*Ancien Régime*). In this respect, forest spaces, and in particular those of the Lure mountains, served as a veritable laboratory for the creation of national legislation applied over the entire territory, thus sweeping away local legislation (notably municipal ordinances) inherited from the past. Faced with resistance from the peasants, who were defending their local interests, the forestry administration positioned itself as a defender of general interests. The pre-ecologist thinking of the foresters, even if they purposely painted things blacker than they were as regards the bad management of the peasants, and exaggerated the deforestation of the mountains, clearly foreshadowed the environmental preoccupations of the end of the 20th century. As shown by T.L. Whited, “In France, however, enlightened forest management was defined in terms of the purely material interests of an abstract public, and for this reason among others reforestation was far from a neutral project, much less à ‘pro-Green’ endeavour”.

Conclusion

Throughout the 19th century, the forestry administration crystallised the resentment of village communities of the Lure Mountain by the stricter management rules they imposed on activities linked to the forest. Almost all foresters throughout the century, with a few exceptions, claimed they were the ones who knew the truth and represented collective interests against local populations that they judged to be ignorant and not very concerned with the future. The policy of Restoration of Mountain Terrain (RTM) that was put in place in the Lure region towards the end of the 19th century marks the outcome of such a process. It reflects the power of the centralised body of forestry engineers over forest management in France and the decline of local communities, weakened by a massive rural

exodus and by a succession of economic crises. The forest space therefore crystallises, throughout these decades of dispute, the opposition between local and central power.

For the communes, the decline of their traditional economy and the rural exodus that resulted from it derive partly from their subjection to the forestry regime. Such an image is not so clear-cut and obviously needs to be qualified. The archives testify to the survival of traditional customs throughout the whole of the 19th century. The crisis that the village communities went through in the second half of the 19th century cannot be reduced to the grip the administration had over the forest's resources, even if subjection to the forestry regime no doubt accelerated the process of decline. The hardships encountered by the peasant communities were also partly linked to the failure of the agricultural, sylvicultural and pastoral system to adapt to modern pressures, notably to the modernisation of field agriculture and to the opening of the national market to competition from foreign producers. Though the conflicts went on for a long time in the Lure Mountain, this is not atypical of the situation in France. T.L. Whited gives us two other examples in the communes of Massat in Ariège and Jarriers in Savoie. The Lure example, although more political and therefore more similar to Massat than to Jarriers, nevertheless remains less conflictual.

The fundamental characteristics of these disputes have not totally disappeared with time. Indeed, there exists a resilience of perceptions as there exists a resilience of ecological dynamics. Certain fundamental and permanent traits can be seen through the questions that are asked today in the Southern Alps, and notably in the Lure region. The question of climate change and ecological risks (erosion of the biodiversity) is as relevant today as it was in the 19th century, along with the current interrogations about global warming. In a region that is ecologically marginal, the variations of climatic parameters, in this particular instance concerning the water balance of the soil, are decisive for the future of forest stands [plantations]. As in the 19th century, the forestry administration positions itself as the guarantor of the collective interest and of sustainable development. By establishing security limits within the framework of the Natura 2000 network, by controlling the successive uses of the forest today with the development of leisure activities, the National Forestry Office continues to protect the environment. The opposition between local communities and a central administration has not disappeared, as the criticisms (founded or not) concerning forest management these past few decades prove. The disputes of the 19th century still underpin present-day changes.

Notes

¹ B. Kalaora, A. Savoie, Aménagement et ménagement : le cas de la politique forestière au XIX^e siècle, in A. Corvol (Ed), *La forêt, Actes du 113^e Congrès des Sociétés Savantes*, Paris, CTHS, 1991, 307-328.

² Scott C. J., *Weapons of the Weak. Everyday Forms of Peasant Resistance*, New Haven, Yale University Press, 1985, Preface, p. xvi.

³ Lorentz B., Parade A., (1883) , *Cours élémentaire de culture des bois: Ecole forestière de Nancy Sixième édition*, Publiée par A. Lorentz et L. Tassy, Paris, Octave Doyn Editeur, 1883, 721 p.

⁴ Puyo, J.-Y. (1996) , *Aménagement forestier et enjeux scientifiques en France de 1820 à 1940*. Thèse de géographie, Université de Pau et des Pays de l'Adour (dir. V. Berdoulay), inédite, 601 p.

⁵ Arnould P., Marty P., Simon L. (2004) : Bosques, paisaje, medio ambiente : dos siglos de mercantilización y de reconquista forestal en Francia : 1800-2000. In: (Sebatian Amarilla J.A., Uriarte Ayo R. (eds.), *Historia y economía del bosque en la Europa del Sur (siglos XVIII-XX*, Zaragoza, Prensas Universitarias de Zaragoza, p. 89-117.

- ⁶ Simon L., (2000), « Les potentialités forestières : de l'approche naturaliste à l'approche géographique », Thèse d'habilitation (dir. P. Arnould), Université de Paris I, Panthéon-Sorbonne, 2000, 437 p.
- ⁷ Surell A. (1840) *Etude sur les torrents des hautes Alpes*, Ecole des Ponts et Chaussées, Paris.
- ⁸ Whited T.L., (2000), *Forest and peasant politics in modern France*. New haven, Yale University Press, 274p
- ⁹ Archives Départementales des Alpes de Haute Provence, Digne, Fond Administration Générale et Économie du Département, Liasse 7M254, commune de Mallefougasse.
- ¹⁰ Darluc, *Histoire naturelle de Provence*, Marseille, Jean Mossy, 1784.
- ¹¹ Cassini (1714-1784), Directeur général de l'Observatoire de Paris. Auteur de la première carte moderne de la France
- ¹² Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, Fond communal, E DEP 229 2 NI.
- ¹³ Archives Départementales des Alpes de Haute Provence, Digne, Fond Administration Générale et Économie du Département, Section Agriculture, Eaux et Forêts, Liasse 7M260, Commune de Peipin, December 09, 1839.
- ¹⁴ Th. Scalfert, *Cultures en Haute-Provence, déboisements et pâturages au Moyen-Âge*, Paris, SEPVEN, 1959.
- ¹⁵ J. Dumoulin, Communes et pâturage forestier en Provence au XIXe, *Provence Historique*, 181, (1995), 351-384.
- ¹⁶ «[...] the inhabitants enjoy the rights of grazing and the woods on the mountains and in the "Terres gastes" and on that of the Lure and the Pellegrine, as well as the rights of grazing on the mountain of jarjaryres, by paying the Lord of this community an allowance of fifteen pounds. [...]», Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, commune de Noyers, Liasse 139/10, november 07, 1698.
- ¹⁷ G. Roche-Galopini, Sur les traces des colporteurs-droguistes de la Montagne de Lure, *Provence historique*, 201 (2000), 278.
- ¹⁸ L. Pelloux, *Notices géographiques et historiques sur les communes du canton de Saint-Étienne-les-Orgues*, Forcalquier, 1887, 8-9.
- ¹⁹ Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, Section biens communaux, EDEP 178/2N1.
- ²⁰ J. Dumoulin, Communes et pâturage forestier en Provence au XIXe siècle, *Provence historique*, 181 (1995), 354.
- ²¹ Archives Départementales des Alpes de Haute Provence, Digne, Fond Administration Générale et Économie du Département, Liasse 7M286, commune de Noyers, Délibération du conseil municipal du 06 août 1854.
- ²² D. Musset, *De mémoire de charbonniers*, Mane, Alpes Lumière, 1996, 37 et 46-47.
- ²³ Larrère R., Nougarede O., (1990), « La forêt dans l'histoire des systèmes agraires : de la dissociation à la réinsertion ? », Paris, *Cahiers d'économie et sociologie rurales*, n°15-16, p. 12-38.
- ²⁴ J. Dumoulin, Communes et pâturage forestier en Provence au XIXe siècle, *Provence historique*, 181 (1995), 357.
- ²⁵ In an authorization to graze dating from the 31st of December 1884, the forestry administration demanded that the nineteen shepherds from the commune Saint-Etienne-les-Orgues pay a fee of 278 francs for a total of 112 head of sheep. Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, Section Biens communaux, Liasse EDEP 178/1N1.
- ²⁶ J. Dumoulin, Communes et pâturages forestiers en Provence au XIXe siècle : le témoignage des comptabilités communales, *Provence historique*, 183 (1996), 88.
- ²⁷ Archives Départementales des Alpes de Haute Provence, Digne, Administration Générale et Économie du Département, Sous-Section Eaux et Forêts, Liasse 7M248, Commune de Cruis.
- ²⁸ Arch.Dép. des Alpes de Haute Provence, Digne, Fond Administration Générale et Économie du Département, Commune de Cruis, Liasse 7M249
- ²⁹ Arch.Dép. Alpes Haute Provence, Digne, Administration Générale et Économie du Département, Sous-Section Eaux et Forêts, Liasse 7M248, Commune de Cruis.
- ³⁰ «However, the inhabitants of Valbelle possess numerous lands, equally well exposed, on which they can easily find enough food to feed their herds.», Le préfet des Basses-Alpes, 10 janvier 1935, Arch.Dép.Digne, Fond Administration Générale et Économie du Département, Commune de Valbelle, Liasse 7M269.
- ³¹ Archives Départementales des Alpes de Haute Provence, Digne, Fond Administration Générale et Économie du Département, Commune de Valbelle, Liasse 7M269.
- ³² « Despite all the dangers that have resulted from this authorization we do not feel that there is any reason this year to deprive the communes of their only means of procuring the fertilizer necessary for agriculture.», Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, Commune de Saint-Étienne-les-Orgues, Liasse EDEP 178/2N1, 01 janvier 1883.
- ³³ The 6th of August 1854, the commune of Noyers asked that the forest of Claperie not be subjected to the forestry regime so that it could cut the wood needed to build a presbytery and a school. «[...] as a consequence there is reason to fear that these projects will not be completed if the commune is deprived of this resource.», Archives Départementales des Alpes de Haute Provence, Digne, Administration Générale et Économie du Département, Sous-Section Eaux et Forêts, Liasse 7M286, Commune de Noyers.
- ³⁴ Archives Départementales des Alpes de Haute Provence, Digne, Administration Générale et Économie du Département, Sous-Section Eaux et Forêts, Liasse EDEP 139/10, Commune de Noyers.
- ³⁵ Arch.Dép. des Alpes de Haute Provence, Digne, Fond Administration Générale et Économie du Département, Commune de Cruis, Liasse 7M249
- ³⁶ Whited T.L., (2000), *Forest and peasant politics in modern France*. New haven, Yale University Press, 274p
- ³⁷ R. Delort, F. Walter, *Histoire de l'environnement européen*, Paris, PUF, 2001, 270.
- ³⁸ Whited T.L., (2000), *Forest and peasant politics in modern France*. New haven, Yale University Press, 274p
- ³⁹ A. Corvol, *L'Homme au bois. Histoire des relations de l'homme et de la forêt (XVIIe-XXe siècle)*, Paris, Fayard, 1987, 309.
- ⁴⁰ D. Ponchelet, Le débat autour du déboisement dans le département des Basses-Alpes, France (1819-1849). *Revue de Géographie Alpine*, 1 (1995), 53-66.

⁴¹ Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, Commune de Saint-Étienne-les-Orgues, Liasse EDEP 178/2N1.

⁴² Archives Départementales des Alpes de Haute Provence, Digne, Administration Générale et Économie du Département, Sous-Section Eaux et Forêts, Liasse 7M248, Commune de Cruis.

⁴³ Arch.Dép.Digne, Fond Administration Générale et Économie du Département, Commune de Cruis, Liasse 7M249.

⁴⁴ Pech P., Simon L., Tabeaud M., « Temporalités sociales et temporalités naturelles en montagne de Lure », in *Journées du Programme Environnement, Vie et Sociétés, Les temps de l'environnement*, Toulouse, CNRS, 1997, p. 185-187.

⁴⁵ P. Pech, M. Tabeaud, L. Simon, Temporalités sociales et temporalités naturelles en montagne de Lure, in *Colloque Environnement, Vie et Sociétés, Les temps de l'environnement*, Toulouse, CNRS, 1997, 185-187.

⁴⁶ L. Pelloux, *Notices géographiques et historiques sur les communes du canton de Saint-Étienne-les-Orgues*, Forcalquier, 1887, 8-9.

⁴⁷ L. Simon, B. Tamru, Cartographie biogéographique et dynamiques de paysages en montagne de Lure, *Mappemonde*, 49 (1998), 27.

⁴⁸ Archives Départementales des Alpes de Haute Provence, Digne, Fond communal, Section Agriculture, Commune de Saint-Étienne-les-Orgues, Destruction du Loup (1851-1897), liasse EDEP 178/3F1.

⁴⁹ « Considering that the presence of wolves was detected numerous times last autumn in the Lure mountains, that recently their presence among herds has been signalled by the disappearance of a number of sheep, it is necessary to take measures to prevent or avoid further damage.», Archives Départementales des Alpes de Haute Provence Digne, Fond communal, Section Agriculture, Commune de Saint-Étienne-les-Orgues, liasse EDEP 178/3F1, arrêté de destruction du Loup, February 10, 1881.