Luxembourg‘s leading conservation NGO, *natur&ëmwelt asbl*, is celebrating its centenary in 2020. So looking back at the way nature has changed over this 100-year history is a recurring theme. But by 1920, Luxembourg was already well on the way to becoming a modern industrial society. This article takes a longer perspective, looking at the way the Luxembourg countryside has changed since 1850…

A brief history of the Luxembourg countryside

1850. Luxembourg covers a much smaller area than it used to and has shrunk to the dimensions and the borders we know today. People are just discovering the iron ore deposits, and their economic potential, in the south of the country. But so far there is no industrial infrastructure. Roads are rudimentary, to say the least. Railways are non-existent. The country is small, rural and poor. Its people work largely on the land, but there aren‘t very many of them anyway as the great wave of emigration to the New World is still in full spate. But things are about to change…

Let’s start our journey back in time with Luxembourg’s forests and woodland, because that is where things have changed least over the past 170 years.

Woodland – the unchanging bit

Most of western Europe’s dense tree cover was cleared in the Middle Ages, leaving only the areas that were unsuitable for farming as permanent woodland. In the *Gutland*, these are largely the poor soils of the successive scarps; in the *Oesling*, the deep-cleft valley slopes. In other words, Luxembourg’s woodland (around a third of the country’s surface) has survived essentially wherever farming is unprofitable. The structure, quality and health of the woods and forests have changed over the years, but the general rule of thumb is: where there were trees in 1850, there are trees now.

Farming: everything has changed

There is as much farmland now as there was 150 years ago, but farming practices, and their effect on the countryside, have changed beyond recognition. The number of farms is in freefall; farm buildings are being moved out of the villages and into the countryside. Draught animals (horses and bullocks) have disappeared from the fields and been replaced by tractors and much bigger items of agricultural machinery. Farming has been dominated since the 1950s by chemical inputs (herbicides, pesticides and synthetic fertilizers) – and numbers of farmland birds have been plummeting as the insects they live on have been largely eradicated. The most conspicuous physical change, though, has been in field structure: fields (arable and grassland) have got much bigger and swallowed up many of the small, natural elements in the countryside: thickets, copses and solitary trees.

It's a salutory exercise to go to the central land registry site (https://www.geoportail.lu/en/) and take a look at some of the rural landscapes wherever you live. Chances are you'll be surprised at how the biggish fields you may be acquainted with are in fact owned by dozens of individuals (or, more likely nowadays, large consortia of heirs). This is in effect a snapshot of the ancient form of field ownership. Farmers working these fields may own a strip or two, but the rest will be leased from their real owners.

This form of land ownership will be familiar to British readers who know from their history lessons that before the familiar patchwork of fields were enclosed by act of parliament in the 18th and 19th centuries, many parts of Britain had a similar open-field structure. And the underlying principle was the same as in Luxembourg: farmers owned strips of land in the various large fields, the idea being that the fertile and less fertile land was shared out more or less equitably. The land lay open: field hedges were rare, fences of course unknown.

And another parallel between the English and the Luxembourg farmed countryside: the corrugated 'ridge and furrow' effect caused by this strip farming is occasionally evident in Luxembourg too – especially in the late-evening or early-morning sun or when there is a sprinkling of snow on the ground.

Most of the strips in Luxembourg were at most 10 metres wide. They would have been virtually unworkable in the absence of agreement on which crops should be grown year by year. So the fields were divided into blocks, each of which was under a single crop (though the strips were cultivated individually). Three-crop rotation was the rule, with all the strips in a given block being planted successively with summer cereals, or winter cereals, or lying fallow for grazing.

Apart from the countless strips and the openness of the fields, we time-travellers would be struck most of all by the number of people and animals working on, and travelling to and from, the fields. As we have noted, farmers had bits of land all around their home villages and spent much of their time travelling between them. The ensuing need for field tracks gave rise to the wonderful network of tracks that we all use today, on foot or on our bikes. Nowadays, though, the tracks tend to be relatively narrow and asphalted. 150 years ago they were unmetalled and wide – they had to be as winter use often turned them into barely passable morasses. The *geoportail* maps clearly show how wide the tracks were. And on the ground we can see how the unmetalled bits have been incorporated tacitly into the neighbouring fields.

Back to 1850. While the rest of rural Luxembourg was quietly going about its rural business, something industrial was stirring in the *Minette*…

Industrialisation: not necessarily a bad thing for nature

Although the existence of rich iron ore deposits in the south of Luxembourg had been known since the 1840s, it was not until around 1870 that they started to be mined commercially and processed into iron and steel, and their associated products. Over a very short space of time at the end of the 19th century, the Minettte ore field grew at a prodigious rate. Villages became towns, and great swathes of land disappeared under massive industrial plants, which spewed out fire, smoke and fumes. And wherever the ore-bearing strata lay close to the surface, the land was opened up to enable opencast mining to ravage the countryside.

Heavy industry called for massive inputs of manpower. Many of the workers came to the south of Luxembourg from Italy. And at about the same time, Luxembourg's wave of emigration turned into a wave of 'inward migration': from the poverty-stricken Oesling, in the north of the

country, to the industrial boom towns of Esch, Differdange and Dudelange.

What we are witnessing now are probably the death throes of Luxembourg's iron and steel industry. But many of the ugly scars of opencast mining have in the meantime grown into absolute hotspots for nature. Without all the manmade changes to the 'Red rock' countryside, there would be none of the wonderful nature reserves that are now scattered around the erstwhile industrial heartlands of the Minette: places like *Ellergronn* near Esch, the *Haard* near Dudelange, and *Giele Botter* between Differdange and Pétange, with their astonishing range of often rare flora and fauna. And without that fortuitous and copious by-product of ironmaking – basic slag fertilizer – farming would never have become so viable in the northern part of Luxembourg.

Urbanisation: a rural speciality in Luxembourg

We have seen how the erstwhile villages in the south of Luxembourg grew rapidly into substantial towns. Rapid growth was also recorded by the city of Luxembourg and by market towns like Diekirch, Ettelbrück and Wiltz. Current government policy is to focus future growth in the three key conurbations of Luxembourg-Ville, Esch-Belval and the *Nordstad* (comprising Bettendorf, Ettelbrück, Erpeldange, Schieren and Diekirch). One of Luxembourg's truly characteristic features, though, especially since 1945, has been 'rural urbanisation' – affecting even the most unlikely, remote rural areas.

This is a development that has been truly detrimental to our natural environment. The fact is that Luxembourg's villages used to be organic entities, encircled by hedges and by grazed orchards (*Bongerten).* These were the first elements to disappear as the villages set about expanding. And post-war expansion was almost entirely unplanned. Luxembourg's numerous *Communes* competed for tax income from local businesses, so every village seemed to be fair game for the developers. And there was rarely anything logical about which business settled where. The same went for residential development: every village had to have its share of land-grabbing house-building. For a long time, almost anything seemed possible.

In Luxembourg, it is rarely possible to find – still less acquire – a sizeable plot of land. As we saw earlier, land ownership tends to be in many hands, and not all neighbours are willing to sell to developers at

the same time. Development has consequently always been piecemeal, and has tended to be along existing roads (as these were the plots with the requisite infrastructure). The upshot was that villages grew ribbon-like out into the surrounding countryside. Time was when there were clearly delineated villages and large areas of woodland or farmland between them. Now, though, it is often possible to go from one end of a given Commune to another without leaving the built-up area. And the ancient ring of grazed orchards has been replaced by housing or unattractive industrial and commercial sheds. Luxembourg has effectively become a single large development site, linked by the modern phenomenon of mobility…

Mobility and nature: you win some, you lose some

It's difficult to imagine today the kind of 'revolution' that rail travel brought about for country people in the 19th century. All of a sudden, people who rarely if ever moved outside a 5 km radius of their home village were able to visit places like Arlon, Metz or Trier and get back the same day.

By 1859 Arlon was within reach, by 1861 Trier and by 1867 Liège. And it was not just people who were moving around: it was fresh goods like milk and dairy products, fruit and vegetables. And countryfolk had access, through regional wholesalers and local retailers, to a wide range of goods which were otherwise available only in the towns and cities. It was a dramatic change in people's way of life.

Railways changed the countryside too – through the tracks and other infrastructure – and not everyone welcomed the sudden loss of peace and quiet and rural seclusion. The railway engineers cut through field systems, tracks and byways. The countryside acquired a different look and feel. But all in all, nature didn't do too badly. Entirely new habitats came into being with all the embankments and cuttings. As they matured, along came the appropriate flora and fauna. And railway tracks were no great barrier to species mobility. Indeed, they promoted mobility and genetic dispersal: railways are in effect long corridors which enable species to spread and individuals to genetically mingle.

Fast forward to the 20th century, the decline of the railways and the rise of road travel. Roads are, generally speaking, not good for nature: they tend to slice through and isolate habitats and their dependent fauna. Luxembourg has one of the densest road networks in Europe; and motorways are particularly 'good' at preventing the essential exchange

among genetic pools, especially where the central reservation is equipped with a solid wall that traps any mammal incapable of leaping it.

So where railways were generally good for nature, roads have had the opposite effect.

The past was; the future will be

Luxembourg's countryside has developed 'thoughtlessly' over the years. The physical changes – woodland, farming, industrialisation, urbanisation, mobility – have little or nothing to do with land-use planning. The driving force has almost always been economic. This mindset is now changing though. It's a bit late, but better late than never. What we have learned is that there is an environmental component to everything we do. And that the fabric of life on the planet is extremely fragile and easily disturbed.

There would be no point in trying to turn back the clock. Previous generations did not set out deliberately to damage the environment. They – and we – didn't know any better, unlikely as that might now seem. But we can take a conscious decision now and for the future to: manage our woods and forests responsibly; farm the land ecologically; manufacture sensible indusrial products; allow nature to breathe between our towns and villages; and be sustainably mobile. Our post-Covid future is waiting to be mapped out, with sustainability in mind. By taking a look back, we can move ahead. So...

Forward to the Future!

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