La Taillanderie

By Ian M. Johnston

The ancient tiny French village of *Nans-sous-Sainte-Anne* does not appear in glossy tourist brochures. Its name would be unlikely to strike a chord with any Australian travel agent. Yet this is a place of great character and enchantment. It is also the location of a wondrous manifestation of the power of nature. It was to this place that Margery and I journeyed in April of this year (2008).

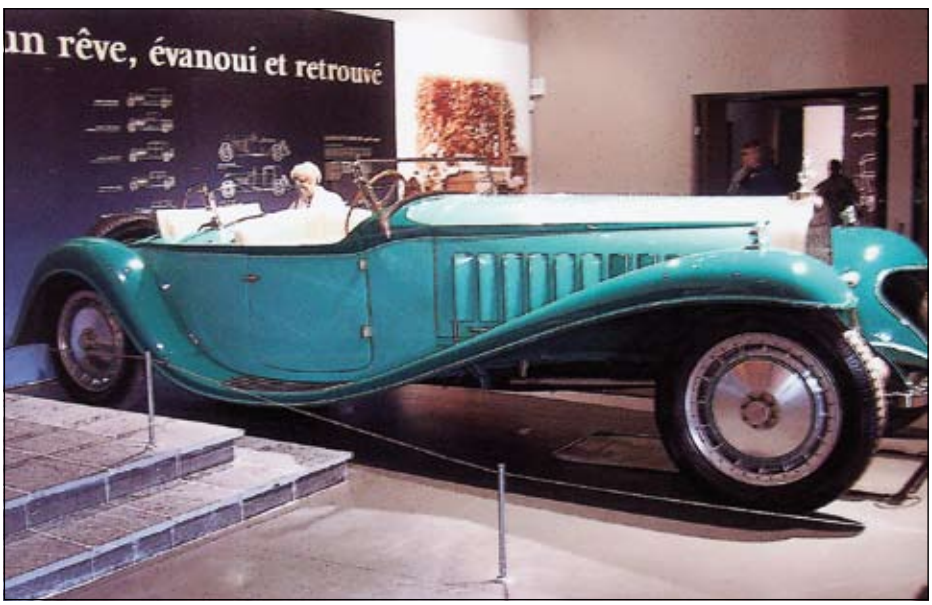
SCHLUMPF

Having spent a glorious week in the Czech Republic discovering the magic of Prague and exploring the Bohemian countryside with its fairytale but often grim castles, it was time to move on. We pointed the nose of our diesel powered station wagon west and high tailed it across Czech and through the wide open frontier-crossing into Germany.

There was little evidence of Spring. Rain pelted down as we hammered across Germany on the A8 autobahn, making vain attempts to avoid the dense plumes of spray thrown up from the endless columns of trucks. Approaching Heidelberg we selected the *ausfart* onto the southbound A5 autobahn leading to Switzerland. Just north of Basel there is an exit which heads west and took us across the Rhine into France. France was our objective, but having travelled around 800 kilometres there was a pressing need to find a bed for the night.

The Alsace provincial town of Mulhouse lies only a short distance from the east west A36 French autoroute. Darkness was descending and the rain still falling heavily as we pulled into the courtyard of the Hotel Ibis. And then my brain clicked into gear! Mulhouse is the location of the internationally famous Schrumpf Auto Museum!

Blue skies greeted us the next morning. It was a unanimous decision to factor in an unscheduled visit to the Schlumpf Museum, where we spent two blissful hours drooling over the world's largest collection of historic exotic automobiles. It really requires a couple of days to do justice to the collection, but the ever attentive Margery dragged me from my approbations and rushed us out of the place, with a reminder that we still had some way to go to where we had rented a cottage for a week. It was time to rejoin the autoroute.



The undoubted highlight of the Schlumpf Museum is this magnificent Bugatti Royale Roadster. It is the only roadster ever mounted on the massive 6.4 metre Royale chassis and was custom built for King Alfonso of Spain in the early 1930s. It weighs an astonishing 3.175 tonnes and is propelled by an advanced design 12,763 cc straight eight cylinder engine, featuring an overhead cam, three valves per cylinder, nine main bearings and enough torque to power the QEII. Its immense size is evident when scaled against Margery, who can be seen inspecting the luxurious white leather upholstery of the dickie seat. (Photo IMJ)

We left the busy Mulhouse to Dijon multi-lane autoroute a few kilometres west of Besançon and headed south into the remote mountainous region of Doubs and Jura. Our route meandered through picturesque fertile valleys until the scenery abruptly changed. Now we were negotiating narrow climbing roads carved into the sides of cliffs, where an error of driving judgement would surely result in the vehicle plunging down into a seriously scary deep ravine.

Eventually we commenced a long winding descent through breathtakingly beautiful forest clad hills until we arrived at our destination — the village of *Nans-sous-Sainte-Anne*.

NANS

The village is little more than a hamlet, bisected by the rushing Lison river. The population of a mere 120 permanent residents reside in colourful leaning stone dwellings, which are scattered in clumps radiating out from the ancient church, the focal point of the village. The sole shop sells a tempting range of exquisite cheeses manufactured and aged on the premises.

Every morning promptly at nine o'clock *La Dame de la Boulangerie* arrives in her van from the nearby town of Salins-les-Bains, announced by the repeated sounding of her vehicle's horn. The village women appear carrying wicker baskets and cluster round the van to receive their loaves of still warm *baguettes*.

Each Friday the butcher, also from Salins-les-Bains, parks his van in the square and displays tempting cuts of pork, venison, beef and goat, plus an array of local smoked gammons and hams.

There is no *Gendarmerie* in the village. Neither is there a post office, bank or even an ATM. In other words, this tiny peaceful village, hidden away deep in the Jura mountains, is a sanctuary far from the dubious 'blessings' of Twenty First Century lifestyles.

But Nans-sous-Sainte-Anne has not always been a haven of such tranquillity!

In the early 1800s the silence of the valley was rudely disturbed by the pounding of giant hammers, the sound of which reverberated off the surrounding escarpments and on a still day could be heard echoing

Few vehicles pass along the winding road which meanders through the village of Nans-sous-Sainte-Anne. One is more likely to encounter a tractor than a car. (Photo IMJ)

Pictured is the canal tributary, excavated 200 years ago, which passes under La Taillanderie and provides power to the giant water wheels within the factory. (Photo IMJ)

from one valley to the next. A manufacturing industry of significant importance to French farmers had commenced in the village and was to continue uninterrupted until 1969.

The history of this industry was the lure which had enticed us to the village of Nans-sous-Saint-Anne.

LE LISON

It was Tuesday morning. We had hastened to the bread van, attached ourselves to the queue of the local wives with their baskets and obtained our metre long crusty *baguette*. Despite having breakfasted earlier we could not resist breaking off a couple of large chunks and smothering them with fresh village butter and a healthy slice of local four year old ham cured cheese. *Un repas très bien!*

Appropriately fortified and wearing stout shoes, we left our cottage and followed a walking trail alongside the swiftly flowing Lison river, which led to the head of a deep gorge. Here we were confronted by a truly amazing phenomenon of nature — the source of the Lison river.

There is considerable speculation among geologists exactly where the Lison has its creation. But certainly it is likely to be deep below the forested Doubs mountains many kilometres underground from where it surfaces, on the outskirts of Nans-sous-Sainte-Anne. So the term 'source' actually describes the cavern through which it veritably explodes from the sheer rock face into the valley.

This is no gentle trickle or even a chuckling brook. It is a gigantic outpouring which instantly becomes the swiftly flowing tumultuous Lison river of considerable depth and a breadth of around thirty metres. It surges through the centre of the village, contained between grassy banks and bridged by a graceful three arched medieval *pont*. In several places the river bursts into lesser but rapidly flowing streams, before curving back and rejoining the main flow.

Two centuries ago, one of these breakaway streams was channelled into a short canal and directed to a flat area where Arsène Lagrange, an engineer of great vision, harnessed the hydraulic energy to power his newly constructed edge tool factory — *La Taillanderie*. Which raises the question — what is an edge tool?

Possibly the very first agricultural tool devised by man was a form of large curved sharp instrument with which he could cut swathes of grass and straw. Eventually iron replaced stone and gave birth to the sickle and scythe.

Without doubt these cutting, or 'edge' tools, were for centuries the most important implements on any farm. But until the dawning of the 19th century brought a better understanding of metallurgy, these implements were crude and prone to shattering and easily blunted.

Lagrange's new factory required a great amount and continuity of energy to drive its massive 250 kg tilt hammers. These were the hammers, striking 150 times each minute, that shattered the silence of

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The village is bisected by the rushing Lison river which is bridged by this grand Medieval three arched stone structure. (Photo IMJ)

A spectacular phenomenon of nature. The Lison river is created deep below the surface within the Doubs Mountains and bursts force from this subterranean cavern in a dramatic fashion. Photo shows Ian perching precariously on a rock at the side of the swiftly flowing newly born river. (Photo Margery Daw)

Clearly illustrated are the two water wheels. A closer scrutiny to the left of the controller is one of the iron clad wheels with the steel cams, which actuate the hammer (to the controller's right) at 150 strokes per minute. (Photo IMJ

The finished article. A beautifully crafted razor sharp scythe blade. Various shapes of blades are displayed on the rack behind. (Photo IMJ)

the village and the surrounding country side and could be heard over a radius of 10 kilometres!

THE MAKING OF A SCYTHE

The technique introduced by Lagrange, represented a giant leap forward from the traditional method of making edge tools which used only a blacksmith's forge and an anvil.

A slug of steel 20 cm in length was heated to red hot in the furnaces adjacent to the tilt hammers. A stretching hammer was then used to lengthen the steel ingot into the first scythe blank, a sabre shaped piece with the handle curved at 60°. This blank was passed on to the planisher who, using a planishing tilt hammer weighing 150 kg, would progressively fashion the sabre into a scythe blade, reheating it eight times.

The tilt hammers were driven by bucket wheels measuring five metres diameter and 1.2 metres wide, propelled by the flow of water from the surging Lison tributary. The wheels turned on massive oak axles comprising of whole tree trunks banded with cast iron rings. The rings had 24 steel cams, each of which would make the hammer strike as it passed over the tip of the hammer stem.

The art of planishing required a great deal of manual precision and consisted of holding the blank in forge tongues and letting the hammer smash it down to paper thin without breaking through. It required enormous skill. Just two successive strikes in the same place would break through the metal and the piece would have to be sent back to the foundry. Only master smiths, who had served their trade guild apprenticeships of 15 years were given the responsibility of planishing.

The upper part of the scythe, which provides the necessary tension and rigidity, was shaped into a curve over an anvil using a special metal bar. The final shape of the tool was achieved using an ingenious pair of shears with only one curved handle. A rope connected this handle to an ash timber branch mounted on the ceiling, which acted as a return spring. The shears therefore were always open. The operator would bounce on the handle causing the shears to operate in the manner of a see-saw.

The crucial step of hardening was accomplished by heating the scythe to a cherry-red 800°C and plunging it into a bath of ox fat. This produced a gentle hardening, as opposed to water hardening which would cause the metal to become brittle.

Over the years the factory changed hands several times, but remained in production until 1969. Its zenith period was between 1890 and 1914, when 25 employees churned out 35,000 tools per annum, amounting to five per cent of the total French production.

Remarkably the machinery has been maintained in perfect working order and is occasionally demonstrated to interested historians, such as myself. Indeed I am indebted to the enthusiastic young Frenchman — Sylvain Debray — who is one of the keepers of this *Classée Monument Historique*, for cranking up the spectacular old water powered machinery for our considerable enlightenment.

Then it was again time to move on. We had enjoyed the magic of Nous sous-Sainte-Anne and the surrounding countryside for a week. We now headed for the Ardenne Forest of Belgium, where we had another cottage booked for a week and where other historic places awaited our contemplation.

IAN'S MYSTERY TRACTOR QUIZ

QUESTION. Can you identify Mick Drew's handsome looking British crawler. And if so are you aware of the two main but totally different engine types with which is could be equipped?

CLUE. Note the twin exhaust pipes and the tantalising glimpse of the engine.

DEGREE OF DIFFICULTY. In order to get both parts of the question correct you will have to be a genius – like me! (Only kidding).

ANSWER. See page 56